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Assessing the Importance of Brand Equity in Health Services Marketing Through the Impact of Acquired Goodwill on Stockholder Returns

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Abstract: The growing importance of brand equity is widely recognized by researchers and business strategists alike. As such, creative new ways to capture the value of this intangible asset must be devised and tested. The current study uses acquired goodwill as a surrogate indicator of brand equity and looks at the importance of brand equity for firms in the health services industry by measuring the impact of acquired goodwill on stockholder returns. The findings indicate that acquired goodwill and stockholder returns appear to be significantly and positively related to each other. In addition, firms that have higher than average amounts of goodwill relative to total assets differ significantly in terms of stockholder returns than those that have relatively little investment in goodwill. Finally, the study indicates that the impact of goodwill on investor returns is highest for firms operating in one specific industry sub-sector, the market for home health services.

Key words: *Goodwill, Holding Period Returns, Brand Equity, Health Services*

1. Introduction

As the population continues to age, the demand for health services continues to grow. It has been estimated that total spending on health care in the United States is well over two trillion dollars annually, making the health care sector one of the main economic engines of the U.S. economy (Thornton and Brown, 2009). Health services in particular, which include medical offices, clinics, laboratories, hospitals, nursing care facilities, and home health care services, continue to attract investments because of their growth, cash flow, niche opportunities, and easy-to-grasp business concepts (Gonzalez, 2010). Nevertheless, health service providers face unique challenges, including uninformed consumers and an increasingly competitive marketplace (Bashe and Hicks, 2000). The response for many health service firms has been to give increasing emphasis to their branding efforts. Because health services are difficult for consumers to evaluate independently in advance, branding has become strategically important for many health service providers. In the case of service firms, a brand's identity is essentially a promise about the nature of the future experience with the service provider (Berry and Seltman, 2007). In essence, a strategically managed brand name can serve as both a means of differentiation in a crowded marketplace and as a method to convey unique brand associations and an image of quality. Given the risk reduction inherent in the brand promise and the differentiating power of the brand, brands create value for both consumers and brand owners (Gray, 2006). For example, this is especially true in the case of the Mayo Clinic. By delivering exemplary health care for more than 140 years, the brand promise associated with the Mayo Clinic name has become well established in the marketplace for health services. Furthermore, the organization has carefully and judiciously extended their brand into new geographic markets and new sectors such as health information, further enhancing the brand image. Finally, the Mayo Clinic has protected the integrity of the brand by aggressively defending the brand from trademark infringement. The result is that the Mayo Clinic has been able to transform their brand into their most valuable asset (Berry and Seltman, 2007). Brands with a high degree of brand equity, such as the Mayo Clinic brand name, have a strong influence on the profitability of a firm. For instance, Madden, Fehle, and Fournier (2006) demonstrate that strong brands deliver greater returns to stockholders and that they do so with less risk than strategies dependent on physical assets. As such, firms are well advised to either develop their own brand assets through advertising and promotion expenditures or seek to purchase other companies with established brands. When a company acquires an established brand, the value of that brand can, at least partially, be found in the balance sheet under the category of acquired goodwill. Yet, in the case of health services, many of which have less established brand identities than traditional consumer

brands, is this acquired goodwill a wise investment? If it can be determined that acquired goodwill has a significant and positive impact on stockholder returns, this can have important implications for marketing strategy. Specifically, strategic opportunities predicated on external growth, rather than internal or organic growth, should become more prominent. Growth through a strategy predicated on mergers and acquisitions will be justifiable to managers and stockholders alike. In order to help answer this question regarding whether or not purchased goodwill is a wise investment for health services firms, the purpose of the present study is to assess the importance of brand equity for firms in the health services industry by measuring the impact of acquired goodwill on stockholder returns. In addition, this study looks at specific health services sectors to help identify industry subgroups that are especially impacted by acquired goodwill.

2. Literature Review

Although brands have been around since the advent of mass manufacturing, it is only within the past twenty years that brands have been broadly recognized as intangible assets independent from the products and services that they represent (Aaker, 1991; Aaker and Jacobson, 1994). This shift coincided with a gradual philosophical adjustment toward viewing a firm's advertising outlays as investments rather than expenditures. In fact, it can be argued that the creation of the advertising industry was essential to the development of the modern consumer brand (Haxthausen, 2009). This is because advertising allowed for consistent communication of the brand promise to consumer markets. This brand promise is fundamental to a brand's image and reputation, creating perceptions and expectations in the mind of the consumer, which can have a strong impact on purchase choice (Haxthausen, 2009). Therefore, given the impact on brand image, advertising can be viewed as a form of investment in the intangible assets of the firm, and it is vital to the development of brand equity (Keller, 2003; Eng and Keh, 2007). Given the widespread recognition today that brands represent one of a firm's most valuable assets, brands have received considerable attention in recent years, especially with regard to how the long-term value of a brand can be assessed and subsequently managed (Keller and Lehmann, 2009). One way to quantify the value of a brand is through the concept of goodwill. Goodwill is defined as "the value of a business or practice that exceeds the value of the net assets" (Jerold and Richards, 2005). According to Eng and Keh (2007), goodwill is largely the outcome of investment in advertising, and advertising, as mentioned earlier, contributes to the creation of brand equity. Although goodwill can be generated internally through investments in advertising, acquired goodwill usually makes its way onto a company's balance sheet. When there is a merger or acquisition in which an identifiable and separable intangible asset is acquired, then the acquiring entity is required to record this asset separately from goodwill. The remaining intangible elements, many of which can be considered brand related, are recorded as goodwill. The accounting literature on acquired goodwill first appeared in the 1880s; however, most accountants were initially reluctant to recognize it as a true asset (Ding, Richard, and Stolowy, 2007). Instead, the tendency was to view acquired goodwill as an uncertain asset and, in the interests of creditors, accountants were in widespread agreement that "amounts expended for goodwill should not be carried very long in the balance sheet" (Catlett and Olson, 1968). Therefore, the tendency was to write-off acquired goodwill as quickly as possible.

Only in recent years has acquired goodwill been recognized as a true asset whose value no longer needs to be amortized (FASB, 2001). Perhaps not coincidentally, this significant shift in accounting standards regarding the treatment of goodwill overlapped the heightened emphasis on strategic brand management. Therefore, although goodwill can be based on a variety of intangible assets, including a company's location or its established relations with employees and suppliers, it is the brand name's recognition and reputation among customers, often developed through advertising expenditures, which is likely to be most significant (Jerold and Richards, 2005). First proposed by Adam Smith in the eighteenth century, and later popularized by Milton Friedman, is the notion that the purpose of any business is to maximize shareholder wealth (James and Rassekh, 2000). Many today still view shareholder value as the ultimate measure of financial outcome (Petersen, McAlister, Reibstein, Winer, Kumar, and Atkinson, 2009). Nevertheless, in recent years, a variety of metrics have been devised to help justify marketing spending (Leone, Rao, Keller, Luo, McAlister and Srivastava, 2006; Trufelman, 2007). Despite the proliferation of performance measures, when viewed from the perspective of the shareholder, it is crucial that marketing managers empirically establish the link between marketing strategy and the key financial measure of firm performance, shareholder value. As of yet, few studies have been able to build links between brand equity and shareholder value (Petersen et al., 2009).

One recent exception has been the research conducted by Madden et al. (2006), who did in fact find a link between branding and the creation of shareholder value. Nevertheless, their research focused on a portfolio of leading international brands classified by Interbrand Corporation, a brand consultancy company. Because the Interbrand method of brand valuation only includes the world's most valuable brands, additional research is needed to investigate whether their results would hold across different types of firms, including health services, and for different brand equity operationalizations (Madden et al. 2006). Given the need to measure brand equity with more straightforward and accessible variables, in the current study we use acquired goodwill as a surrogate indicator for brand equity.

3. Methodology

As our measure of shareholder value, the current study employs the concept of market-adjusted holding period returns (HPR), a measure of how much excess return an investor would have achieved over the market return during some specified period. In effect, HPR is an investment performance measure associated with a buy and hold strategy over a given period (Mickkelson and Ruback, 1985). Utilizing HPR as our measure of shareholder value, we propose the following hypotheses:

H1: There is a statistically significant link between goodwill and HPR.
H2: Health services firms that have above average goodwill have higher HPR than their counterparts, which do not.

In our study, the period analyzed was a five-year period ending in 2008, and accounting and HPR data were collected over the time period 2003 to 2008. Only firms still operating in the marketplace as of 2011 were included in the sample, ensuring that our sample included only viable going concerns. To compute the measure, daily abnormal returns (*AR*) for each firm studies *i*, on a given day τ , $AR_{i,\tau}$, were estimated by subtracting the market return $R_{m,\tau}$ from the firm's stock return $R_{i,\tau}$. Therefore, for each firm, the holding period return, $HPR_{i,t\ \mathrm{to}\ T}$, is defined as:

$$HPR_{i,t\to T} = \$1\left(\prod_{\tau=t-T}^{T}\left(1+AR_{i,\tau}\right)\right)-1$$

Simply put, if an investment is made in a portfolio comprised of companies that mimic the compounded return on all companies that comprise the stock market over an investment horizon *T*, and that same investment is made in a selected individual company for the identical investment horizon, the market adjusted holding period return shows how much excess return the investor would have achieved over the market return. Daily stock returns data were obtained from the University of Chicago's Center for Research in Security Prices (CRSP) database. For health service firms with missing daily returns, a geometric average return was computed over the contiguous period for which price data were available, and the resulting average was used to estimate the missing return. Goodwill was obtained from accounting records for the firms in our sample, and the ratio of goodwill to total assets was created in order to standardize the value of goodwill for the firms in our sample. We started with 119 firms listed in the 2-digit U.S. Standard Industrial Classification (SIC) code 80, Health Services. These firms had to be publically traded firms that could be found either in the 2008 Compustat or CRSP database. We then eliminated 22 prior to the end of 2008 with no reported trade data, another 22 with trading data less than 5 years prior to the end of 2008, and 5 with insufficient accounting data prior to the end of 2008. This left us with 70 firms, which formed our sample (see Table 1).

4. Results and Discussion

In order to test the first hypothesis, we began with a simple regression analysis. The ratio of goodwill to total assets (GW/TA) was used as the independent variable, while HPR served as the dependent variable. The results are shown below in Figure 1. As can be seen from the figure, although the proportion of variance in the value of HPR explained by goodwill alone is not very high, goodwill and HPR appear to be significantly and positively related to each other. The results, therefore, lend support to our first hypothesis.

Figure 1: Simple Regression Analysis (Dependent Variable = HPR)

Regression	
Intercept	-0.349
	(-1.271)
(GW/TA)	1.916
	(2.216)*
F-statistics	4.910*
Adjusted R^2	0.054
Number of firms	70

Table 1: 70 Firms in Sample

Health Services SIC Codes	**Description**	**Number of Firms**
801	Offices and Clinics of Medical Doctors	5
802	Offices and Clinics of Dentists	0
803	Offices and Clinics of Osteopathic Physicians	0
804	Offices of Other Health Practitioners	0
805	Nursing and Personal Care Facilities	8
806	Hospitals	11
807	Medical and Dental Laboratories	10
808	Home Health Care Services	6
809	Misc. Health and Allied Services	30
Total		70

Standardized beta coefficients with t-statistics reported in parentheses. * Significant at 5%.

In order to test our second hypothesis, we began by splitting the total sample into firms with high amounts of goodwill relative to total assets and those with relatively low levels. Since the average amount of GW/TA in our sample was 27 percent, this level was used as the midpoint for constructing our two subgroups. Of the 70 firms in the total sample, 40 were classified in the high GW/TA subgroup and 30 were classified in the low subgroup. The Shapiro-Wilk test, an analysis of variance test for normality (Shapiro & Wilk, 1965), confirmed that the sampled population is normally distributed. The results of a t-test comparing the means of the two subgroups are provided in Figure 2. As shown in Figure 2, we can conclude that firms that have higher than average amounts of GW/TA differ significantly in terms of HPR than those that have relatively little investment in GW/TA, thus lending support to the second hypothesis.

Figure 2: t-Test for Differences in HPR between Firms With Goodwill to Total Assets Less Than / Greater Than 27% (Assuming Unequal Variances)

	GW/TA < 27%	**GW/TA > 27%**
Mean HPR	-0.190	0.560
Variance	0.550	3.943
Observations	40	30
t-Statistic	-1.970*	

* Significant at 5%

Another issue of interest was to identify which specific types of health services firms demonstrate the highest HPR to shareholders. In order to do so, we computed the average proportion of GW/TA in each of the six different SIC codes in our sample. As shown in Figure 3, firms that operate in the 3-digit SIC code 808 (home health care services industry) appear to hold the highest proportion of GW/TA. Based on this finding, we combined each of the five remaining SIC codes (801, 805, 806, 807, and 809) and conducted a t-test of the two sub-samples (those carrying 808 SIS code and all other types of health services). As shown in Figure 4, there is a statistically different significance between the amounts of goodwill to total assets between the two groups.

Figure 3: Average GW/TA by SIC Code

SIC code	Number of firms	average GW/TA	sample variance
801	5	0.4106	0.0792
805	8	0.1425	0.0378
806	11	0.1872	0.0162
807	10	0.2243	0.0381
808	6	0.4940	0.0183
809	30	0.2732	0.0420

Figure 4: t-Test for Differences Between Goodwill to Total Assets Between Firms Operating in the Home Health Care Services Industry (SIC Code 808) and All Other Types of Health Care Services (Assuming Equal Variances)

	808 SIC code	Non- 808 SIC code
Mean Goodwill to Total Assets	0.494	0.245
Variance	0.018	0.041
Observations	6	64
t-Statistic	2.934*	

* significant at 1%

We further sought to determine if the HPRs between the two groups were statistically different. We therefore computed the average HPR for each of the six different SIC codes in our sample, as shown in Figure 5. According to Figure 5, firms operating in the 3-digit SIC code 808 offer the highest HPR to investors but also bear the highest variance.

Figure 5: Average HPR by SIC Code

SIC code	Number of firms	HPR	sample variance
801	5	-0.3457	0.2150
805	8	0.0177	0.7236
806	11	-0.5366	0.0946
807	10	-0.1357	0.3961
808	6	2.8993	11.5391
809	30	0.0218	0.8314

Subsequently, a t-test of differences between the two sub-groups was performed, the results of which are shown in Figure 6 (those carrying 808 SIS code, and all other types of health services). According to Figure 6, the differences are statistically significant. There appears to be a difference between the HPRs recognized by firms operating in the home health care services industry versus firms in other health care sectors.

Figure 6: t-Test for Differences between HPR between Firms Operating in the Home Health Care Services Industry (SIC Code 808) and All Other Types of Health Care Services (Assuming Unequal Variances)

	808 SIC code	Non- 808 SIC code
Mean HPR	2.899	-0.128
Variance	11.539	0.595
Observations	6	64
t-Statistic	2.178*	

* Significant at 5%

In our final analysis, a multiple regression was performed in which we considered the impact to HPR of both the average GW/TA and the characteristic of being in the 3-digit SIC code 808. As shown in Figure 7, although the impact of GW/TA on HPR was still positive as in Figure 1, the multiple regressions removed the significance of GW/TA. Instead, this analysis showed a statistically positive coefficient related to the dummy variable which captures the characteristic of being in the 3-digit SIC code 808.

Figure 7: Multiple Regression Analysis (HPR is the Dependent Variable)

Regression	
Intercept	-0.311
	(-1.348)
(GW/TA)	0.746
	(1.033)
(GW/TA) 1 if in SIC code = 808, 0 else	2.841
	(5.303)*
F-statistics	18.513*
Adjusted R^2	0.337
Number of firms	70

Standardized beta coefficients with t-statistics reported in parentheses. *significant at 1%.

Although goodwill may have some positive benefits on HPR in the case of U.S. health services firms, the specific sector of the health services industry in which a firm competes may have an even greater impact on stockholder returns. In addition, as shown in Figure 7, the R^2 indicates our independent variables explain only a modest proportion of variance in HPR. Given the natural business cycles and consumer trends that dictate the growth and demand patterns for any given industry, this is an intuitively logical result. Although goodwill may be a useful predictor of brand equity and resultant consumer loyalty, this single variable does not have the same impact on investor returns as the natural growth rate of the industry itself.

5. Conclusion

The growing importance of brand equity is widely recognized by researchers and business strategists alike. As such, creative new ways to capture the value of this intangible asset must be devised and tested. Given the nature of the accounting variable acquired goodwill, utilizing this understudied metric may be one such approach. As shown in our results, when considered in isolation, this variable does in fact appear to influence investors' HPR. Additionally, the results also indicate that the specific industry sub-group in which a firm operates may have an even stronger impact on investor returns. Therefore, investors would be wise to identify growing industries and invest accordingly. In the broad industry for health services, one particularly important sub-sector appears to be the market for home health services. As for future research directions, another approach to capturing the value of brand equity may be to look at the impact of word of mouth (WOM) on brand equity and ultimately HPR. In the health services industry, WOM can be particularly powerful. Today with the popularity of social media, WOM is easily spread and more quickly than in the past. Ferguson, Pauline and Leiriao (2006) recognize what a powerful marketing tool positive WOM by loyal customers can be. Villanueva, Yoo and Hanssens (2008) reported customers acquired through the cheap, long term method of WOM produced about twice the value to the firm in the long-term as those acquired with more traditional short-term methods like advertising and promotion. The increased generation of firm value will be likely to manifest itself in higher levels of goodwill, which, as this research paper concludes, is positively linked to HPR.

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