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# CALCULATED INTANGIBLE VALUE AND BRAND RECOGNITION

BY

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## **Introduction**

How can a company value its various intangible assets? By definition, intangible is “a good, service, or effect that has no monetary value.”<sup>1</sup> One example of an intangible asset is employee knowledge. For instance, an employee in the advertising department has intangible assets that are comprised of knowledge of customer demographics, company goals, and what has or has not worked in the past (to name just a few), all of which lead to successful or unsuccessful marketing campaigns. Therefore, a strong relationship with customers is built by using a company’s intangible assets generated by employees and vendors. The strength of this relationship is reflected in the calculated value of the firm’s intangible assets and the firm’s brand recognition. A company with stronger brand recognition has more value residing in its intangible assets.

## **Background**

Businesses today are focused on the maximization of value for their shareholders. Historically, business assets have been mostly tangible with nearly all intangible assets stemming from the selling of the business and the generation of goodwill. Today, a company’s intangible assets may be more important than its tangible assets. The question then arises, how does a company measure those assets and more importantly, how much are they worth?

A company's market value is comprised of two main items: intellectual capital and financial capital. Financial capital is easy to determine. It is the value of the company’s investment in tangible assets, such as equipment and machines used to produce goods or services. What is difficult to quantify is intellectual capital. Intellectual capital is comprised of three basic elements: human, structural, and relational capital. Human capital is the employee knowledge that

is brought to the firm and the employee's ability to generate knowledge. Structural capital is comprised mainly of information and communication systems, items that the company internalizes and uses to make knowledge accessible. Relational capital is the relationship that a company develops between its employees, customers, and vendors and alliance partners (suppliers).

There are several ways to calculate the value of intellectual capital, the easiest being the difference between market value and book value. The simplicity of this calculation can result in outcomes which are not meaningful. What happens when a company's market value is lower than the book value? Does this mean that the company has an intellectual deficit? Probably not, so the difference between market and book value is not a reliable valuation of intangible assets.

Another way to value the capital created by intangible assets is to look at Tobin's Q, a ratio developed by Nobel Prize winning economist James Tobin. Tobin's Q looks at the ratio between a firm's market value and the replacement costs of all the firm's assets. For example, "a Tobin's Q of 2 means the firm's market value is twice as large as the replacement cost of its assets."<sup>2</sup> However, unless one is working for the firm in question, finding and determining the replacement costs for all assets is time-consuming and equally unfeasible.

A quicker, yet accurate way to calculate intangible asset value would be to glean all the information needed to determine intangible asset value from public resources. The NCI Research group has developed a "measure of a company's ability to use its intangible assets to outperform the other companies in its industry."<sup>3</sup> This measure is the Calculated Intangible Value (CIV) and is calculated by finding the firm's current three-year average pre-tax earnings, then subtracting

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<sup>1</sup> <http://www.wiley.com/college/geog/cutter018104/resources/glossary.htm>

<sup>2</sup> Cornelis, K., Hagendorf, D., Horvath, J., and Thomas Weaver. "The New Accounting: Measuring Intellectual Capital." 12 Apr. 2000.

<sup>3</sup> Ibid.

from it, the product of the three-year industry average return on assets (ROA) and the firm's three-year average tangible assets.

Starbucks is a top-performing company with substantial growth and broad brand recognition. As one would expect, Starbucks has fostered its relationships with employees, suppliers, and customers and has exceptional relational capital. It is expected that its intangible assets will have a high value leading to a large CIV value and also high brand recognition. Other companies that have lower CIVs will tend to have lower brand recognition.

Companies with increasing CIV values will have a greater relational capital value as well. The assumption is that companies with increasing intangible value are doing so by creating strong relationships with their customers, suppliers, and employees. By forming and maintaining solid, long-term relationships with employees, suppliers, and customers, relational capital becomes tangible in the sense that it is evident by the success of the company.

In looking at publicly traded companies in the retail restaurant industry, specifically those designated as “Specialty Eateries” by Yahoo! Finance and “Eating and Drinking Places” by the SEC, it can be determined that those companies with a higher CIV for the fiscal year 2004 also have a higher brand rank. The following analysis supports this hypothesis.

## **Methodology**

### **Company Selection Process**

Twelve public companies were selected with Securities and Exchange Commission SIC codes of either 5810 - Retail - Eating and Drinking Places, or 5812 -Retail - Eating Places, or 5400 - Retail- Food Stores, or 2050 - Bakery Products. Starbucks, with the largest valued tangible assets for fiscal year 2004, was the basis for company selection. Six of the twelve companies selected share Starbucks SIC code of 5810, and another five share Starbucks Yahoo's industry

designation of Specialty Eateries - Public Companies. In addition, of the five SIC code 5810 companies, four share Yahoo's industry designation of Restaurants - Public Companies; the remaining company Yahoo designates its industry as Restaurants - Private/Foreign. All company information was gathered from annual 10K or 10K-SB reports filed with the SEC.

The twelve companies have a total of 29 listed subsidiary companies among them. Table 1 lists company name, subsidiary or subsidiaries, the SEC CIK#, SEC SIC code and the Yahoo! Finance designation. Appendix D lists the companies' names formerly known as, if any.

**Table 1: Parent companies and their subsidiaries**

Company Name	Subsidiaries	SEC CIK#	SEC SIC#	Yahoo! Finance
BAB, Inc.	Big Apple Bagels My Favorite Muffin Brewster's Coffee	1123596	2050	Specialty Eateries
Benihana, Inc.	Benihana Benihana of Tokyo Haru RA Sushi Doraku	935226	5812	Restaurants, Public
Champps Entertainment Inc.	Champps Americana Champps Restaurant Champps Restaurant & Bar	1040328	5810	Restaurants, Public
Deidrich Coffee, Inc.	Deidrich Coffee Gloria Jean's Coffee People	947661	5400	Specialty Eateries
Eat at Joe's, LTD	Eat at Joe's	829325	5810	Restaurants, Public
Flanigan's Enterprise, Inc.	Flanigan's Management Services, Inc. Flanigan's Enterprises, Inc. Seventh Street Corp. Flanigan's Seafood Bar & Grill	12040	5812	Specialty Eateries
New World Restaurant Group, Inc.	Einstein Bros. Noah's	949373	5812	Specialty Eateries
Panera Bread Co.	Panera Bread Co.	724606	5812	Specialty Eateries
Real Mex Restaurants Inc.	Acapulco El Torito	1289480	5810	Restaurants, Foreign
Rick's Cabaret International, Inc.	Rick's Cabaret XTC	935419	5810	Restaurants, Public
Starbucks	Starbucks	829224	5810	Specialty Eateries
Triarc Companies, Inc.	Arby's Deerfield & Company, LLC,	30697	5810	Restaurants, Public



## **Company Rejections**

Twenty-four companies were listed under the SEC SIC code 5810. Of these 24, seventeen were rejected leaving a population of seven with the SEC SIC code 5810. Three companies were rejected due to their inability to timely file a 10K or 10K-SB report with the SEC. Six companies filed a registration of securities termination with the SEC. One did not have enough years of filings. One declared bankruptcy. Two were individual people, one had the most recent filing in 1998, one listed a mailing address as the Triarc Company address, and neither one had any 10K filings on record. Four were rejected for other reasons.

## **Brand Ranking Process**

The twelve parent companies and their 29 subsidiaries were ranked by brand recognition. Brands were scored on the basis of a survey of 27 graduate students.

## **Student Survey**

A survey conducted during the summer academic session of 2005 asked graduate students to rate their recognition of the twelve parent companies on a scale of five to one, with a score of five being the most recognized and a score of one being not recognized at all. It was found that a large majority of students did not recognize (had not heard of) nearly all the parent companies. However, a second survey conducted asked the same students to rate how well they knew the subsidiary companies' brand names, using the same ranking system. The second survey provided more brand recognition information.

## **Analysis**

Naturally, a larger company, such as Starbucks, should have a much larger CIV than a smaller company with similar attributes. In order to compare large companies to small companies in the same industry, a level playing field is needed.

### **Modifying CIV to Create a Level Playing Field**

By comparing the ratio of a company's CIV to its purchasing power it is possible to compare a small company to a large company. Purchasing power is the sum of a company's long-term debt and its shareholder equity. As tangible assets are purchased through these two financing options and tangible assets are part of the CIV calculation, it is logical to compare these two items to level the playing field. The ratio between CIV and the sum of long-term debt and shareholder equity is called the level playing field ratio (LPF Ratio). Appendix A lists the selected companies and their computed CIV and Appendix B lists the LPF ratio for the selected companies.

## **Survey Analysis**

### **Brand Recognition Scoring**

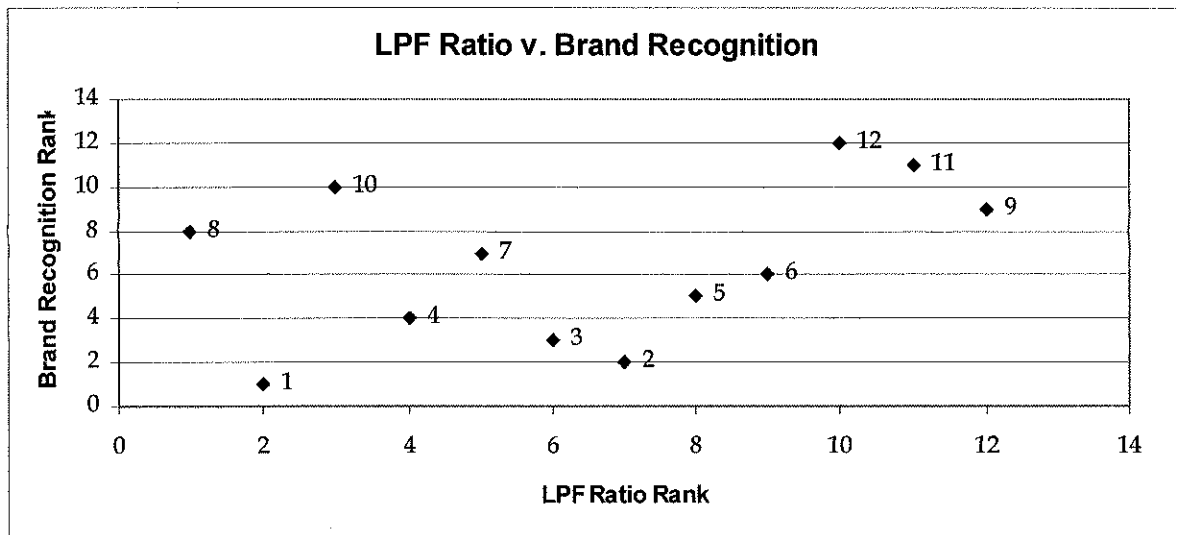
Brands were scored on the basis of recognition. The scores were weighted according to the rating given by students. A score of five was given to companies that students rated they "knew well," a score of four for companies they had "heard of," and so on, down to a score of one for companies that had "never been heard of." By ranking the subsidiary companies, the parent groups were assigned an average score of brand rank. In the case of a tie, the parent only company survey was consulted to determine which parent company had greater name recognition.

## Statistical Results

Relying on LPF ratios, companies were ranked from lowest to highest, with the highest scores assigned the highest rank. Computing a Spearman correlation between the LPF ratio and brand recognition resulted in a significant p-value (see Appendix C). Ranking the LPF ratios and the brand recognition scores resulted in an  $r_s$  of 0.41, a p-value of 0.09 with ten degrees of freedom. Figure 1 shows the correlation between LPF ratio and brand recognition. Appendix C provides the rankings of LPF ratios and brand recognition.

One company had a negative CIV and a negative purchasing power sum leading to a positive LPF ratio. This one data point also happened to have a relatively high brand recognition score. Further research is needed to study this anomaly.

**Figure 1: LPF Ratio rank and Brand Recognition rank**



Legend:

Point 1: Rick's Cabaret International, Inc.  
Point 2: BAB, Inc.  
Point 3: Champps Entertainment, Inc.  
Point 4: Deidrich Coffee, Inc.  
Point 5: Flanigan's Enterprise, Inc.  
Point 6: Benhana, Inc.

Point 7: Real Mex Restaurants, Inc.  
Point 8: New World Restaurant Group, Inc.  
Point 9: Eat at Joes, LTD  
Point 10: Triarc Companies, Inc.  
Point 11: Panera Bread Co.  
Point 12: Starbucks Corp.

## **Conclusion**

It is easy to observe the customer relational capital in large corporations such as Starbucks, but firms that have small tangible assets such as Panera Bread Co. also show this relationship. When companies are compared on the same scale, a significant, positive correlation exists between a firm's ratio of CIV to the sum of long-term debt and shareholder equity and the firm's brand recognition among customers. Therefore, 90% of the time, the higher the LPF ratio a firm has, the higher a brand recognition the firm is likely to have. This brand recognition is founded in customer relational capital. The intangible assets of employees in the firm and vendors strengthen the relationship the firm has with its customers, leading to brand recognition.

## **Further Research**

The conclusion arrived at is based solely on the survey of a small number of college students in the Midwest area of the United States. While the student population is diverse, it is hardly the size and quality that could be gained by conducting a national survey. Many of the subsidiary companies are not local to the Midwest, some have mostly east coast customer bases and some have mostly west coast customer bases, others still are international.

The research provided here surveys only the customer side of relational capital and its influence on the value of intangible assets. To look at the vendor side of the equation is an area to research further.

Conducting a similar survey of suppliers and asking them to rank companies based on their perception of how well the relationship is between the company and their vendors would allow the strength of vendor/client relationships to be measured.

As customers are relatively easy to query and gather data, the challenge is to determine how vendors perceive their clients and how employees rate their employers, thus examining how

the whole of relational capital affects intangible value. That information should correlate to a strong relationship with employees, customers, and vendors and high intangible asset value and successful businesses.

Further research should be undertaken to see if negative CIV and negative purchasing power normally result in high brand recognition. This could be due to some other tangible asset(s), rather than intangible asset(s), used to promote brand recognition, such as promotional mailings, coupons, or some other expenditure that creates a negative shareholder equity while at the same time creating a pre-tax loss.

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## References

- Bharadwaj, Anandhi and Benn R. Konsynski. "Capturing the Intangibles" [Electronic version]. *Information Week 500*. 22 September 1997.
- Bontis, Nick. "Managing Intellectual Capital." *Information Highways*. February/March 2000.
- Chatzkel, Jay, trans., "Measuring and Valuing Intellectual Capital: From Knowledge Management to Knowledge Measurement." (presented by World Trade Conferences of London, England, November 4-5, 1998), *Journal of Systematic Knowledge Management*, <http://www.free-press.com/journals/knowledge>.
- Cornelis, Kelly, Dana Hagendorf, Jon Horvath, and Thomas Weaver. "The New Accounting: Measuring Intellectual Capital." *Kellogg TechVenture 2000 Anthology*. 12 April 2000.
- Drozd, F. Anne. "The Components of Value Measurement." *Journal of Accountancy*. December 2004.
- Dzinkowski, Ramona. "The Measurement and Management of Intellectual Capital: An Introduction." *International Federation of Accountants*. 1998.
- Gross, Neil. "Commentary: Valuing 'Intangibles' Is a Tough Job, But It Has To Be Done" [Electronic version]. *Business Week*. 6 August 2001.
- Gulati, Ranjay, Sara Huffman, and Gary Neilson. "The Barista Principle: Starbucks and the Rise of Relational Capital." 1 August 2002.
- Hermans, Raine and Ilkka Kauranen. "Intellectual Capital and Anticipated Sales in Small and Medium-sized Biotechnology Companies." (presented at 'Innovations and Entrepreneurship in Biotech/Pharmaceuticals and IT/Telecom.' Gothenburg, Sweden May 19-20, 2003).
- Khermouch, Gerry, Stanley Holmes, and Moon Ihlwan. "The Best Global Brands." *BusinessWeek*. 6 August 2001.
- "Measuring Intellectual Capital." *The Hindu Business Line Internet Edition*. 25 March 2002.
- Neilson, Gary, Ranjay Gulati, and David Kletter. "Organizing for Success in the 21<sup>st</sup> Century: The Relationship-Centric Organization." 2002.
- Nov, Oded and Matthew Jones. "Creativity, Knowledge and IS: A Critical View." (presented at the 38<sup>th</sup> Hawaii International Conference on System Sciences – 2005).
- Ordóñez de Pablos, Patricia. "'Guanxi' and Relational Capital: Eastern and Western Approaches to Manage Strategic Intangible Resources." (presented on June 18, 2004). *International Association for Chinese Management Research*.

Securities and Exchange Commission EDGAR Database  
<<http://www.sec.gov/edgar/searchedgar/webusers.htm>>

Srivihok, Anongnart and Arunee Intrapairote. "Measuring Intellectual Capital: Web Sites Analysis of Thai SMEs." *The Fifth European Conference on Knowledge, Learning, and Capabilities*. Innsbruck, Austria. 2004.

Starovic, Danka and Bernard Marr. "Understanding Corporate Value: Managing and Reporting Intellectual Capital." 2003. CIMA. London.

Taug, Jan. "A Virtual Tour on Intellectual Capital and Information Systems." November 2001.  
<<http://www.taug.no/article/articleprint/3/-1/12/>>

Youngman, Richard. "Understanding and Measuring Intangibles: a Journey of Learning." (publishing pending *Spectra – Journal of the Management Consultancies Association*. June 2003).

## Glossary

**CIK#:** A unique code used by the US Securities and Exchange Commission (SEC) to identify corporations and individual people who have filed disclosure with the SEC.

**CIV (calculated intangible value):** 3-year average pre-tax earnings less the industry average ROA multiplied by firm's tangible assets.

**Correlation:** The degree or extent of the relationship between two variables.

**Correlation Coefficient r:** Quantifies the degree of linear association between two variables. It is typically denoted by  $r$  and will have a value ranging between negative 1 and positive 1. Quantifies the degree of linear association between two variables. It is typically denoted by  $r$  and will have a value ranging between negative 1 and positive 1.

**Financial Capital:** The value of the company's investment in tangible assets.

**Goodwill:** The excess of the cost of an acquired entity over the net of the amounts assigned to assets acquired and liabilities assumed.

**Human Capital:** The employee knowledge that is brought to the firm and the employee's ability to generate knowledge.

**Intellectual Capital:** The sum of everything the people in a company know which gives a competitive advantage in the market, knowledge that can be converted into value.

**Intangible:** A good, service, or effect of an action that cannot be assigned monetary value.

**Knowledge:** The understanding, awareness, or familiarity acquired through education or experience. Consists of data and/or information that have been organized and processed to convey understanding, experience, accumulated learning, and expertise as they apply to a current problem or activity.

**Level Playing Field (LPF) Ratio:** The ratio of CIV to the sum of long-term debt and shareholder equity.

**Null Hypothesis:** A stated assumption that there is no difference in parameters for two or more populations. According to the null hypothesis, any observed difference in samples is due to chance or sampling error.

**Pre-Tax Earnings:** Profit or loss before income tax or allowance for income tax.

**P-value:** The probability that the null hypothesis is true.

**Purchasing Power:** The sum total of a firm's long-term debt and its shareholder equity.



**Real Capital:** Capital, such as equipment and machinery, which is used to produce goods. Real capital is distinguished from financial capital, which is funds available to acquire real capital. Real capital appears on the asset side of the balance sheet, while financial capital appears in either the liabilities section or the shareholders' equity section.

**Relational Capital:** The value of a firm's network of relationships with its customers, suppliers, alliance partners, and employees.

**SIC code:** Standard Industrial Classification is a four-digit code that identifies the sector specific industry that a company is a member of.

**Structural Capital:** Mainly information and communication systems, items that the company internalizes and uses to make knowledge accessible.

**Tangible Asset:** Tangible assets include current assets, which are assumed to be equivalent to cash, and fixed assets, which generate part of the firm's earnings; however, in this context, tangible assets are strictly those assets included in the property, plant, and equipment section on the balance sheet.

**Tobin's Q:** A ratio developed by Nobel prizewinning economist James Tobin that compares the market value (MV) of a firm with the replacement cost (RC) of the firm's assets. (MV/RC).

## Appendix A

Company Name	3-year Average Industry Average			CIV
	Pre-Tax Earnings	ROA	Tangible Asset Value	
BAB, Inc.	\$ 539,611	(0.011)	\$ 430,048	\$ 544,208
Benihana, Inc.	\$ 13,568,000	(0.011)	\$ 81,557,333	\$ 14,439,673
Champps Entertainment Inc.	\$ 4,094,000	(0.011)	\$ 80,043,000	\$ 4,949,488
Deidrich Coffee Inc.	\$ 162,000	(0.011)	\$ 7,225,667	\$ 239,227
Eat at Joe's LTD.	\$ (367,488)	(0.011)	\$ 152,829	\$ (365,854)
Flanigan's Enterprise, Inc.	\$ 1,370,333	(0.011)	\$ 11,786,333	\$ 1,496,304
New World Restaurant Group Inc.	\$ (44,897,000)	(0.011)	\$ 59,207,333	\$ (44,264,201)
Panera Bread Co.	\$ 47,531,667	(0.011)	\$ 149,133,333	\$ 49,125,582
Real Mex Restaurants Inc.	\$ 3,372,667	(0.011)	\$ 45,028,000	\$ 3,853,919
Ricks Cabaret International Inc.	\$ (352,544)	(0.011)	\$ 8,910,776	\$ (257,307)
Starbucks Corp.	\$ 464,390,333	(0.011)	\$ 1,421,636,667	\$479,584,578
Triarc Companies Inc.	\$ (14,765,333)	(0.011)	\$ 108,296,333	\$ (13,607,878)

## Appendix B

<b>Company Name</b>	<b>Long-term Debt 3-yr Ave.</b>	<b>Shareholder's Equity 3-yr. Ave.</b>	<b>Playing Field Ratio CIV/(LTD + SE)</b>
BAB, Inc.	\$ 1,034,214.33	\$ 4,873,141.67	0.0921
Benihana, Inc.	\$ 9,496,666.67	\$ 84,796,333.33	0.1531
Champps Entertainment Inc.	\$ 41,632,333.33	\$ 65,299,000.00	0.0463
Deidrich Coffee Inc.	\$ 2,524,000.00	\$ 17,070,000.00	0.0122
Eat at Joe's LTD.	\$ 1,742,148.33	\$ (3,057,292.67)	0.2782
Flanigan's Enterprise, Inc.	\$ 1,374,666.67	\$ 10,136,333.33	0.1300
New World Restaurant Group Inc.	\$ 160,291,000.00	\$ (98,769,333.33)	(0.7195)
Panera Bread Co.	\$ 13,827,333.33	\$ 196,274,666.67	0.2338
Real Mex Restaurants Inc.	\$ 114,830,000.00	\$ 19,417,333.33	0.0287
Ricks Cabaret International Inc.	\$ 3,750,927.00	\$ 7,489,924.33	(0.0229)
Starbucks Corp.	\$ 91,693,666.67	\$ 2,089,505,666.67	0.2199
Triarc Companies Inc.	\$ 581,343,000.00	\$ 292,783,666.67	(0.0156)

## Appendix C

Company Name	LPF Ratio	Brand Recognition	x LPF Rank	y Brand Rank	$d_{(x,y)}$	$d^2$
Ricks Cabaret International Inc.	(0.0229)	1.22	2	1	1	1
BAB, Inc.	0.0921	1.25	7	2	5	25
Champps Entertainment Inc.	0.0463	1.27	6	3	3	9
Deidrich Coffee Inc.	0.0122	1.28	4	4	0	0
Flanigan's Enterprise, Inc.	0.1300	1.32	8	5	3	9
Benihana, Inc.	0.1531	1.39	9	6	3	9
Real Mex Restaurants Inc.	0.0287	1.83	5	7	-2	4
New World Restaurant Group Inc.	(0.7195)	2.46	1	8	-7	49
Eat at Joe's LTD.	0.2782	2.67	12	9	3	9
Triarc Companies Inc.	(0.0156)	3.09	3	10	-7	49
Panera Bread Co.	0.2338	4.67	11	11	0	0
Starbucks Corp.	0.2199	4.89	10	12	-2	4

$n = 12$   
 $n - 2 = 10$   
 $r_s = 0.41$   
 $t_{calc} = 1.43$   
 $P = 0.09$

sum  $d^2 = 168$

## Appendix D

<b>Company Name</b>	<b>Formerly Known As</b>
<b>Benihana, Inc.</b>	
<b>BAB, Inc.</b>	
<b>Champps Entertainment Inc.</b>	<b>Champps Entertainment Inc.</b>
<b>Eat at Joe's LTD.</b>	<b>Unique Casual Restaurants Inc.</b>
<b>Deidrich Coffee Inc.</b>	
<b>Flanigan's Enterprise, Inc.</b>	
<b>New World Restaurant Group Inc.</b>	<b>New World Coffee &amp; Bagels Inc.</b>
<b>Panera Bread Co.</b>	<b>New World Coffee Inc.</b>
<b>Real Mex Restaurants Inc.</b>	<b>New World Coffee Manhattan Bagel Inc.</b>
<b>Ricks Cabaret International Inc.</b>	
<b>Triarc Companies Inc.</b>	
<b>Starbucks Corp.</b>	