

# BrandLoyalties, Inc.

## Data Usage Example

When analysts are starting to work with a new research data set, it is often useful for them to refer to a proven model based on that data set before they assemble their own proprietary investment model.

To assist that process, we have constructed a number of “Proof-of-Concept” Indexes that use our metrics and a very simple rule book. These indexes (and their recent performance data) are shown in a table near the top of our BrandLoyalties.com home page under the heading “Examples of BrandLoyalties.com Metrics in 'Smart Beta' Indices (Proforma Performance)”. Links to corresponding Fact Sheets are also provided.

Most of the indexes share a simple and basic set of investment rules:

- The constituent equities are included in the BrandLoyalties published list of covered equities (and by virtue of that have a mean daily on-line brand name citation rate that is greater than three times the standard deviation of their daily citation rates);
- The constituents generally have mid and large market capitalizations ( $\geq$  \$2 billion);
- The constituents have materially positive correlations ( $\geq$  0.1) between trailing year BrandLoyalties citation share growth ranking and trailing price correlation;
- The corporations included in the index at any reconstitution are in the best 20% of BrandLoyalties ranked corporations (i.e., percentile rankings  $\leq$  20.0);
- Each index is completely rebalanced and reconstituted quarterly to equal valuations.

The differences between the various indexes shown on the BrandLoyalties.com home page result primarily from the application of sector and industry selection criteria to the list of BrandLoyalties covered equities.

The BrandLoyalties metrics have been specifically designed with portfolio models in mind. Most of the metrics can be used to provide straight forward “buy/sell” signals. And for the purposes of building a prototyping portfolio model similar to our “Proof-of-Concept” Indexes only four of the fields in a BrandLoyalties data set are required:

- Date of observation;
- Ticker symbol used as corporate identifier;
- The percentile ranking (0-100, to four decimal places) of the citation share growth of the brand names for each equity on that given day (lower percentile rankings are better);
- Optimal correlation coefficient between the equity’s citation share growth percentile rankings and the adjusted closing equity price (higher correlation coefficients are better).

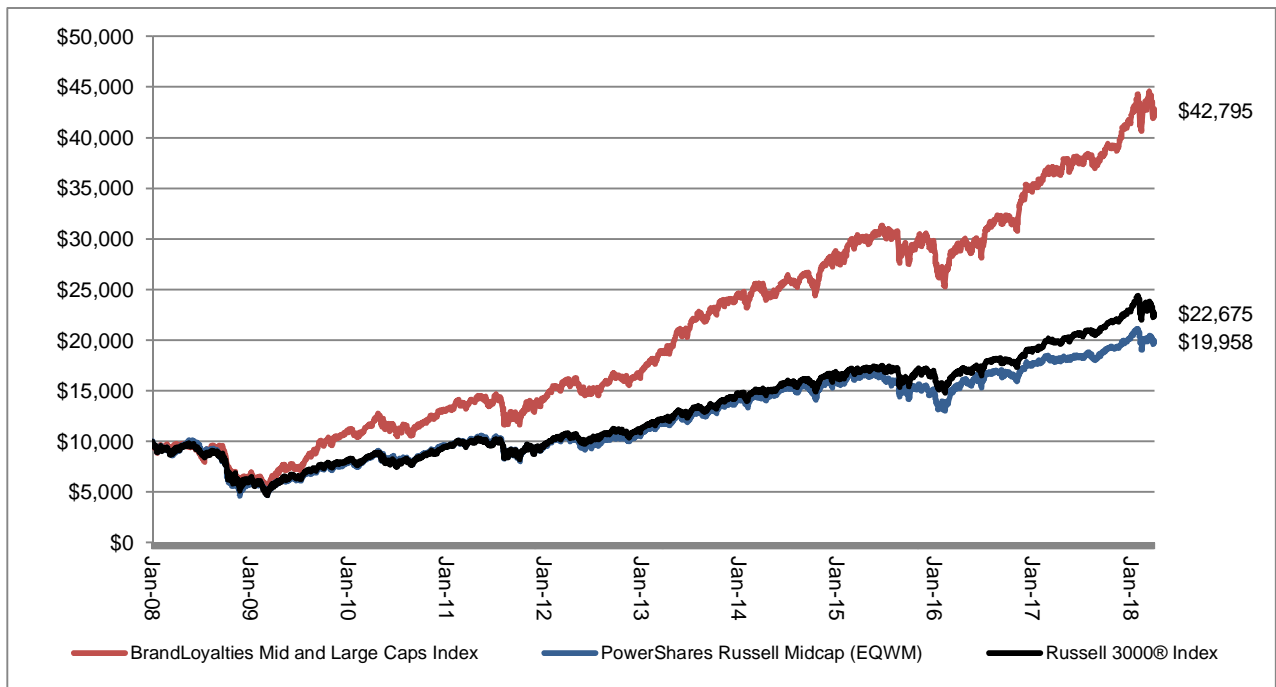
The following table contains the first several records in a BrandLoyalties data set for the closing market date for the last quarter of 2017:

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Date	Equity Symbol	Percentile Ranking	Best Price Correlation	Optimal Correlation Lag	% Change YOY	Slope Last 91 Days
12/29/2017	AAL	67.8500	0.0883	136	5.32	-0.571
12/29/2017	AAN	19.6100	0.0208	247	-3.59	0.564
12/29/2017	AAP	7.1600	0.7537	244	5.47	0.984
12/29/2017	AAPL	23.5675	0.6353	44	5.55	0.114
12/29/2017	AAWW	8.6709	0.5026	246	-7.90	0.852
12/29/2017	ABB	81.4662	0.0621	82	-10.00	-1.334
12/29/2017	ABBV	29.5400	0.3671	244	8.38	0.317
12/29/2017	ABCD	10.0000	0.4714	29	-3.50	0.855
12/29/2017	ABCW	69.7500	0.3405	170	-6.18	-0.590
12/29/2017	ABG	93.7900	0.8100	78	-10.00	-1.147
12/29/2017	ABM	33.7157	0.0164	86	-6.12	0.745
12/29/2017	ABT	36.2600	0.4869	233	5.26	0.093
12/29/2017	ABTL	43.4200	0.3855	139	-0.09	-0.215
12/29/2017	ACAD	59.4365	0.7185	39	-10.00	-0.818
12/29/2017	ACAT	61.7425	0.4295	200	-4.30	-0.574
12/29/2017	ACCO	38.3900	0.5210	117	-10.00	-0.046

The application of the “Proof-of-Concept” Indexes rule book to this initial portion of the data set would result in the ticker AAP being included in the 1Q-2018 portfolio, while all of the other tickers would be excluded by virtue of low capitalization (AAWW and ABCD), low price correlation (AAN) or percentile rankings outside of the top quintile. On a proforma basis such a portfolio would perform as follows:



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At any given time applying the above selection criteria to the ~1900 equities in the BrandLoyalties “universe” will result in an equally weighted portfolio containing between 90 and 100 constituents. In the specific example cited above, the reconstituted and rebalanced 1Q-2018 portfolio would have 94 equally weighted constituents at the beginning of the quarter.

Building portfolios with more constituents can be accomplished by relaxing the capitalization criteria, removing the correlation requirements or including equities below the top quintile – which should generally be applied in that order. One or more of these steps may be necessary when building GICS based thematic portfolios that are compliant with RIC concentration standards.

The “Proof-of-Concept” Indexes shown on the BrandLoyalties.com home page have been reconstituted and rebalanced on a quarterly basis. More active traders will find that the alpha in the metrics provided by BrandLoyalties is best realized during the first 30 days after publication. In general shorter holds results in better performance, and a portfolio manager will need to carefully weigh the frequency of reconstitutions based on his or her effective trading costs.

The performance of top and bottom BrandLoyalties quintiles on a proforma basis using more aggressive monthly reconstitutions can be charted as follows:

