Amplified Interfaces: How Organizational Identity Affects Investor Reaction to Market Performance

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Conceptualizing Organizational Identity as a Lens

...used by market actors to interpret and process market information.
How does organizational or product identity alter the way market evaluators react to objective market information?

Organizational evaluators (e.g., investors, critics) respond directly to organizational identity.

Identity

Evaluation

Non-conformist are penalized by relevant audiences (White 1981, Chen and Hambrick 1995, Zuckerman 1999, Hsu 2006)

Legitimacy and taken-for-grantedness is necessary for resource mobilization (DiMaggio and Powell 1983, Edelman 1992, Fligstein 2001)
How does organizational or product identity alter the way market evaluators react to objective market information?

1. Organizational evaluators (e.g., investors, critics) respond directly to organizational identity.

   Identity
   
   Evaluation

   Non-conformist are penalized by relevant audiences (White 1981, Chen and Hambrick 1995, Zuckerman 1999, Hsu 2006)

   Legitimacy and taken-for-grantedness is necessary for resource mobilization (DiMaggio and Powell 1983, Edelman 1992, Fligstein 2001)

2. Organizational evaluators use identity to process, interpret, and evaluate otherwise objective information as it becomes available.

   Information
   
   Identity
   
   Evaluation

   Age mediates the effects of investor evaluations of mutual fund performance (Chevalier and Ellison 1997, Berk and Green 2004). Gender mediates the (evaluative) outcome of occupying a brokerage position (Burt 1998)

   Identities as sense-making (Fiske and Taylor 1991, Gioia and Thomas 1996)
Of fishing boats and financial markets

Captain ~ Manager of an investment fund
(2 goals: Attract best crew/investors, Catch most fish/highest returns, 1 task: Steer the boat/fund)

Crew ~ Investors
(1 goal: Make money, 1 task: Evaluate captain/manager)

Joining a crew ~ Investing in a fund

Fish ~ Returns (new information)

Boat (relative to other boats) ~ Identity

Frederik Barth 1966. Models of social organization
“The pattern of movement of vessels on the fishing banks is so extreme that it cannot fail to strike an observer immediately: the several hundred vessels of the fleet constantly tend to congregate in small areas of the immense, and potentially bountiful, expanse of sea; most attention is concentrated on discovering the movements of other vessels, and most time is spent chasing other vessels to such unplanned and fruitless rendezvous.”

Frederik Barth 1966. *Models of social organization*
Of fishing boats and financial markets - “amplifying” the interface between captain and crew when captain goes against the norm

“Without special information to justify the move, [if the skipper] decides to go elsewhere than where other vessels go, he demands more trust in his transaction with the crew. They are asked to respect his judgment, as opposed to that of the other skippers; they are thus asked to make greater presentations of submission than they would otherwise have to do.”

Frederik Barth 1966. *Models of social organization*
Of fishing boats and financial markets - relative performance evaluation

“The skipper risks more by not joining the cluster: if a few vessels among many make a catch, the crew can claim that it might have been them, had the skipper only given them the chance. If the vessel on the other hand follows the rest, they are no worse off than most, and the onus of failure does not fall on the skipper. Secondly, the absence of a catch matters less, so long as other vessels also fail.”

Frederik Barth 1966. *Models of social organization*
Of fishing boats and financial markets - identity predetermines the magnitude of evaluation.

Outcome (Crew Evaluation of Captain)
- Success (+)
- Fail (-)

Amplified Outcome (Crew Evaluation of Captain)
- Success (++)
- Fail (--)
Empirical setting: The hedge fund industry

How does a hedge fund’s categorical identity alter the way investors interpret and react to objective market performance?

Why hedge funds? They are “laboratory” for studying individual behavior and decision making (Sirri and Tufano)

1 - Few institutional factors to account for
2 - “Low” barrier to entry
3 - Two measures of performance

Extent to which a fund is similar to or different than other funds.
convertible arbitrage
dedicated short bias
emerging markets
equity market neutral
event driven
fixed income arbitrage
fund of funds
global macro
long/short equity
managed futures
multi-strategy

All hedge funds in TASS database (1995)

Fishing meets Hedge Funds
Identity as Typicality - To what extent can a given fund be considered Typical in its reference group? (An operationalization of identity).

\[ T_p = S_{p,q} = \frac{2|p \cap q|}{|p| + |q|} \]

where \( p \) is the vector representation \([...,0,1,0,1,0,...]\) of a given fund and \( q \) is a vector representation \([...,0,2,8,0,1,4,...]\) of a modal, hypothetical fund of \( p \)'s primary style.

Similar constructs - Rosch (1973) webs of sameness, Miller and Chen (1996) deviation from “central tendencies or de facto norms”; Hannan (2007) grades of membership where membership is primary style.
**Measurements**

**DV**

- **Identity**
  - Identity as *Typicality* - To what extent can a given fund be considered *Typical* in its *reference group*? (An operationalization of identity).
  \[ T_p = S_{p,q} = \frac{2|p \cap q|}{|p| + |q|} \]
  where \( p \) is the vector representation \([…,0,1,1,0,0,1,0,…]\) of a given fund and \( q \) is a vector representation \([…,0,2,8,0,1,4,…]\) of a modal, hypothetical fund of \( p \)'s primary style.

- **Evaluation as Capital Flows** - % of capital added to (+) or taken out of (-) a fund. Measured at the quarter. Assumption: All flows are realized at the end of each quarter.
  \[ FLOW_{it} = \frac{TNA_{it} - TNA_{it-1} \times (1 + R_{it})}{TNA_{it-1}} \]

- **Information**
  - New, constantly updated information as *Returns* - % return (+ or -) captured by a fund over a given time period. Returns are reported monthly. Appear in the models quarterly.
Organizational evaluators (e.g., investors, critics) respond directly to organizational identity.

“H1: The higher a hedge fund’s level of typicality, the greater its capital inflows.

$$FLOW_{i,t} = (T_{i,t-1})$$

“We trade this GTAA product, Global Tactical Asset Allocation. It’s a top-down, country-level, global macro strategy. We decided to start trading single stocks within Euroland, so, large cap equities within continental Europe, and the consultants did not want that bolted into the GTAA strategy. They wanted it as a separate product, because we wouldn’t fit as nicely into their GTAA box.” (Interview with Managing Partner $500 mil+ GM, EMN, RV Funds, February 20, 2009; London)

“They want to see stuff they recognize.” (Interview with Former Cap-Intro Specialist, February 21, 2009; London)

“No distractions from multi-strategy investing.” (From offering document obtained from SF-based FOF database)
Organizational evaluators (e.g., investors, critics) respond directly to organizational identity.

H1: The higher a hedge fund’s level of typicality, the greater its capital inflows.

\[ FLOW_{i,t} = (T_{i,t-1}) \]

H2a: The effect of recent positive returns on capital inflows is greater among atypical funds.

H2b: The effect of recent negative returns on capital outflows is greater among atypical funds.

\[ FLOW_{i,t} = (T_{i,t-1}, R_{i,t-1}, T_{i,t-1} \ast R_{i,t-1}) \]
Table 3, Model 2

**Data:** 1994-2009, TASS Hedge Fund Database, 10,000+ unique funds.

**Models:** Panel with lagged independent variables; Clustered standard errors to adjust within-fund serial correlation; Fixed effects for style and quarter.

**Controls:** Age, ln(Assets), Fees, Liquidity terms, # Fund in Family, 12-month return, 12-month volatility, Fixed Effects for Primary Category & Quarter

\[ FLOW_{i,t} = 2.485xTypicality_{i,t-1} + 0.447xQPR_{i,t-1} + 0.122xQNR_{i,t-1} \]

- **Modest effect:** SD = 0.13. 1 SD shift = 1.3% per year
- **BIG effect:** SD = 6.82. 1 SD shift = 11.9% per year
- **Modest effect:** SD = 4.47. 1 SD shift = 2.3% per year

**H1:** The higher a hedge fund’s level of typicality, the greater its capital inflows.
Hypothesis 2a: The positive effect of recent positive returns on capital flows is greater among atypical funds.

Hypothesis 2b: The negative effect of recent negative returns on capital flows is greater among atypical funds.

\[ FLOW_{i,t} = (T_{i,t-1}, R_{i,t-1}, T_{i,t-1} \times R_{i,t-1}) \]
H2a: The positive effect of recent positive returns on capital flows is greater among atypical funds.

H2b: The negative effect of recent negative returns on capital flows is greater among atypical funds.

\[ FLOW_{i,t} = (T_{i,t-1}, R_{i,t-1}, T_{i,t-1} \ast R_{i,t-1}) \]
Sunk cost fallacy, escalation of commitment, relational importance. Atypicality implies additional costs that lowers the likelihood of defection (and, thus, penalty).

Local, identity-based benchmarking, substitutability. Atypicality shields an organization from relative evaluation processes following losses.

“I think investors would definitely be more quick to fire a manager in a more traditional fund because it’s really easy to switch.” (Ph Interview with Trader, Miami, Nov 3, 2009)

“Hub-and-Spoke system.” (Ph Interview with FOF Managing Partner, SF, Nov 4, 2009)
0 Evaluations are shaped by social comparison (S - reference group theory, symbolic interaction; P - social comparison theory; E - performance theory, relative income hypothesis). Model predicts an evaluation from the identity-based social context in which the evaluation occurs.

1 In isolation, only available social referent is the focal fund itself (cf., Sherif 1935). In the cluster comparison is vis-à-vis other funds.

2 Investor (in a typical fund) is fearful of falling behind -- relative deprivation -- when social referents are plenty.

3 Investor (in an atypical fund) is relatively free from the fear of feeling relative deprivation when social referents are few.

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“Hub-and-Spoke system.” (Ph Interview with FOF Managing Partner, SF, Nov 4, 2009)

Local, identity-based benchmarking, substitutability. Atypicality shields an organization from relative evaluation processes following losses.
Testing the “Comparison” hypothesis: Adjusting the aperture of relative evaluation.

Prediction: Investors in atypical funds will respond less to relative losses than investors in typical funds.

<table>
<thead>
<tr>
<th></th>
<th>Model 14a,b,c</th>
<th>Model 15a,b,c</th>
<th>Model 16a,b,c</th>
<th>Model 17a,b,c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vs. SP 500 (+)</td>
<td>0.37***</td>
<td>0.39***</td>
<td>0.37***</td>
<td>0.25***</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Vs. SP 500 (-)</td>
<td>0.28***</td>
<td>0.32***</td>
<td>0.33***</td>
<td>0.29***</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Ratio (+)/(-)</td>
<td>1.32</td>
<td>1.22</td>
<td>1.12</td>
<td>0.86</td>
</tr>
<tr>
<td>Vs. CSFBT (+)</td>
<td>0.23***</td>
<td>0.26***</td>
<td>0.27***</td>
<td>0.19***</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Vs. CSFBT (-)</td>
<td>0.29***</td>
<td>0.29***</td>
<td>0.37***</td>
<td>0.35***</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Ratio (+)/(-)</td>
<td>0.79</td>
<td>0.90</td>
<td>0.73</td>
<td>0.54</td>
</tr>
<tr>
<td>Vs. TASS Style Index (+)</td>
<td>0.21***</td>
<td>0.23***</td>
<td>0.23***</td>
<td>0.19***</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Vs. TASS Style Index (-)</td>
<td>0.31***</td>
<td>0.32***</td>
<td>0.42***</td>
<td>0.34***</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Ratio (+)/(-)</td>
<td>0.68</td>
<td>0.72</td>
<td>0.55</td>
<td>0.56</td>
</tr>
<tr>
<td>Quarterly Fixed Effects</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Style Fixed Effects</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
† significant at $p < .10$; ‡$p < .05$; ††$p < .01$; †††$p < .001$

Note: Early Results/Second Paper

Interpretation: Investors in atypical funds use a narrow aperture of comparison to evaluate losses, but a wide aperture to evaluate gains.
Implications And Future Directions

Identity as more than a main effect. Costs and benefits of atypicality.

Simultaneously addresses differentiation principles in strategy with conformity arguments in sociology.

Super-local benchmarking / aperture of relative evaluation.

Institutional investors.

Trajectories towards typical. Social imitation as a proxy for unobserved ability.
Extra Stuff  Time Permitting
### Mediation by Group-level Characteristics

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Funds</td>
<td>Highest Average Fund Typicality</td>
<td>Emerging Markets</td>
<td>Fund of Funds</td>
<td>Multi-Strategy</td>
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<td></td>
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<tr>
<td>Quarterly Positive Return</td>
<td>0.713</td>
<td>0.718</td>
<td>0.718</td>
<td>1.144</td>
<td>0.524</td>
<td>0.474</td>
<td>0.336</td>
</tr>
<tr>
<td></td>
<td>(0.065)**</td>
<td>(0.099)**</td>
<td>(0.233)**</td>
<td>(0.312)**</td>
<td>(0.242)*</td>
<td>(0.153)**</td>
<td>(0.211)</td>
</tr>
<tr>
<td>Quarterly Negative Return</td>
<td>-0.114</td>
<td>-0.013</td>
<td>-0.181</td>
<td>-0.020</td>
<td>-0.219</td>
<td>-0.254</td>
<td>0.073</td>
</tr>
<tr>
<td></td>
<td>(0.070)</td>
<td>(0.101)</td>
<td>(0.217)</td>
<td>(0.330)</td>
<td>(0.438)</td>
<td>(0.127)*</td>
<td>(0.228)</td>
</tr>
<tr>
<td>Fund Typicality</td>
<td>6.066</td>
<td>7.032</td>
<td>4.479</td>
<td>11.945</td>
<td>-1.815</td>
<td>2.833</td>
<td>10.361</td>
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<tr>
<td></td>
<td>(1.048)**</td>
<td>(1.769)**</td>
<td>(3.857)</td>
<td>(3.758)**</td>
<td>(5.169)</td>
<td>(2.173)</td>
<td>(5.439)+</td>
</tr>
<tr>
<td>QPR * Typicality</td>
<td>-0.732</td>
<td>-0.921</td>
<td>-0.873</td>
<td>-1.380</td>
<td>1.214</td>
<td>0.131</td>
<td>-0.024</td>
</tr>
<tr>
<td></td>
<td>(0.164)**</td>
<td>(0.241)**</td>
<td>(0.502)+</td>
<td>(0.776)+</td>
<td>(0.860)</td>
<td>(0.466)</td>
<td>(0.562)</td>
</tr>
<tr>
<td>QNR * Typicality</td>
<td>0.669</td>
<td>0.501</td>
<td>0.825</td>
<td>0.653</td>
<td>0.484</td>
<td>0.537</td>
<td>-0.147</td>
</tr>
<tr>
<td></td>
<td>(0.177)**</td>
<td>(0.254)*</td>
<td>(0.492)+</td>
<td>(0.873)</td>
<td>(1.325)</td>
<td>(0.384)</td>
<td>(0.626)</td>
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<tr>
<td>Primary Style Fixed Effect</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Quarterly Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Funds</td>
<td>6562</td>
<td>2072</td>
<td>508</td>
<td>461</td>
<td>457</td>
<td>1465</td>
<td>362</td>
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<tr>
<td>Observations</td>
<td>92224</td>
<td>29138</td>
<td>7417</td>
<td>7411</td>
<td>5809</td>
<td>18793</td>
<td>5472</td>
</tr>
<tr>
<td>R²</td>
<td>0.114</td>
<td>0.146</td>
<td>0.092</td>
<td>0.159</td>
<td>0.122</td>
<td>0.099</td>
<td>0.142</td>
</tr>
</tbody>
</table>

Robust standard errors (clustered by unique funds) in parentheses
+ significant at 10%; * significant at 5%; ** significant at 1%

Note: Controls for age, log assets, management fee, incentive fee, lockup period, redemption notice period, # funds in fund family, 12-month returns, 12-month volatility included in models, but not shown.

Currently working with different measures of typicality (e.g., Hamming distance, ERGM network model, Tversky similarity) to replicate under different assumptions regarding investor’s construction of reference points.
Measuring the **Duration** of the Buffering Effect

Table 4. Models Predicting Capital Flows, t+1 - Testing the persistence of the effect over multiple periods of negative returns

<table>
<thead>
<tr>
<th></th>
<th>All Funds</th>
<th>Two Qtrs (-) Returns</th>
<th>Three Qtrs (-) Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly Positive Return</td>
<td>0.713</td>
<td>(0.065)**</td>
<td></td>
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<td>(0.070)</td>
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<td>(1.048)**</td>
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<td>(0.177)**</td>
<td></td>
</tr>
<tr>
<td>Primary Style Fixed Effect</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Quarterly Dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Constant</td>
<td>12.851</td>
<td>(4.924)**</td>
<td></td>
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<tr>
<td>Funds</td>
<td>6562</td>
<td>3634</td>
<td>1729</td>
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<tr>
<td>Observations</td>
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<td>3116</td>
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<tr>
<td>$R^2$</td>
<td>0.114</td>
<td>0.078</td>
<td>0.094</td>
</tr>
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</table>

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Note - Controls for age, log assets, management fee, incentive fee, lockup period, redemption notice period, # funds in fund family, 12-month returns, 12-month volatility included in models, but not shown.