Network Reality of Virtual Worlds

VOL

The Three Rules of Social Capital In This World And Those



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Now the Social Network





Scenes in Second Life

(February 2008, just after the data download)

Attend a Meeting or Class

Wander the Earth

Shop



Meet, Engage, and Exchange with Folks from Burt (2017, Structural Holes in Virtual Worlds).

Strategic Leadership _____ Foundations (page 12)



EverQuest II Characters

(during the 2006 observation period, descriptions from EQ2.WIKIA.COM)



Froglock







GOOD: Stout and strong, **Dwarves** are known for bravery and a sense of honor, though not particularly for their intellect. Mentally sharp and morally virtuous, **Froglocks** strive to eliminate villainy and corruption. Courageous **Halflings** are good-natured and friendly, known for their humor. **High Elves** embody nobility and wisdom, but their stoic nature can be mistaken for arrogance. **Wood Elves** are pleasant and friendly, but fierce protectors of the woodlands, battling any who would taint the purity of nature.











EVIL: Sinister, cunning, and dangerous, **Dark Elves** coolly prey on the weak and the ignorant. Calculating and cold, the **Iksar** are a harsh but disciplined people who delight in cruelty and conquest. **Ogres** are aggressive brutes whose physical might is matched only by their hunger for power. **Ratonga** are keenly perceptive and highly intelligent, but tend to be selfish and manipulative. **Trolls** care only about satisfying their hunger for food and lust for battle, making them fearsome and deadly opponents.



NEUTRAL: Hearty and strong, **Barbarians** are loyal companions and unforgiving enemies. **Erudites** eschew their human heritage, seeking arcane knowledge and mystical power. **Gnomes** make up for their small stature with tenacity and ingenuity. Descended from humans and elves, **Half Elves** are known for fierce determination and independence. **Humans** are diverse and adaptable, at once wise, foolish, and brutal. Worshiping spirits of the land, the **Kerra**'s docile manner can mask the fearsome predators that they are.

Strategic Leadership _____ Foundations (page 13)



Rule 1 of Social Capital



Strategic Leadership Foundations (page 6)

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"Reputation cannot arise in an open structure." (AJS, Coleman, 1988:S107)



Closure-Trust Associations, Management

Dots are average Y scores within intervals of X. Graph A describes 46,231 observed colleague relations with analysts and bankers over a four-year period (adapted from Burt, 2010:174-175). Vertical axis is the proportion of relations cited next year as good or outstanding. Horizontal axis is number of mutual contacts this year. Logit z-score test statistics are estimated with controls for differences in network size and adjusted for autocorrelation between relationships (Stata "cluster" option). Graph B describes for the bankers subsample correlations between positive (above average) and negative (below average) reputations this year and next year (adapted from Burt, 2010:166; routine t-tests reported across 1,179 banker-year observations).

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And the Same Holds for Online Social Relationships

Dots are average Y scores within intervals of X. *Second Life* trust is friendship rights granted to contact as predicted in Table 3.1 by Model 2. *EverQuest II* trust is housing rights granted to contact as predicted in Table 3.2 by Model 4 for social relations and Model 5 for economic relations. Standard errors in parentheses are adjusted for autocorrelation between relations from same character using STATA "cluster" option.



Rule 2 of Social Capital

Bill

Asia

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US

Front Office

R & D

Now the Social Network

Lines indicate frequent and substantive work discussion; heavy lines especially close relationships.

> RULE 2: Achievement is facilitated in an open network (information breadth, timing, and arbitrage advantages created by bridging structural holes; Granovetter, 1973; Freeman, 1977; Burt, 1980, 1992, 2005; Lin et al., 1981; Lin, 2002; Cook et al., 1983; Gould & Fernandez, 1989, 1994; Aral & Van Alstyne, 2011).

Heir Apparent

○ Other Senior Person







across eight management populations. Pie charts are from Figure 2.4 in Neighbor Networks. On causal order, see Appendix VIII.

Returns to Brokerage Are Evident Online in the Network-Achievement Connection within Virtual Worlds



Dots are average Y scores within integer (left) or five-point (right) intervals on horizontal axis. *EverQuest II* achievement variable is the predicted character level in Model 8, Tables 3.4 and 3.5. *Second Life* achievement is the canonical correlation dependent variable in Model 15, Tables 3.5 and 3.6 (associations with individual achievement dimensions in *Second Life* are given in appendix graphs on page 65).

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Rule 3 of Social Capital

Asia

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Now the Social Network

Lines indicate frequent and substantive work discussion; heavy lines especially close relationships.

EU and

Back

Office

Emerging Markets

Heir Apparent

○ Other Senior Person

CEO

C-Suite

RULE 3: Returns to an open network require acceptance in the target audience, or are greatly reduced by lack of acceptance (typically measured by job status, network status, reputation; Merton, 1968; Granovetter, 1985, 1992; Tullock, 1985; Greif, 1989; Bernstein, 1992, 2001; Uzzi, 1996, 1999; Burt, 1997, 1998; Macy & Centola, 2007; Rider, 2009; Tortoriello & Krackhardt, 2010; Burt & Merluzzi, 2014; de Vaan, Vedres, & Stark, 2015).

US

Strategic Leadership Brokerage Contingencies (page 8)



Audience Effect, II: Broker's Network Status Reassures or Concerns the Target Audience

Network status is on the vertical axis of the top graph. Status is defined in the same way that price is defined in the general equilibrium model: $S_i = \Sigma_i z_{ij} S_i$, where S_i is status of person i, and zij is connection from j to i. Like price, status is only meaningful in reference to the status of some numeraire benchmark person. Here, status is normalized at the mean, so a score of 1.0 indicates a person of average status in the network.

 $S_i = \sum_j Z_{ji} S_j$

eigenvector score / mean score) **Network Status** 3.0 2.0 $R^2 = .74$ 1.0 0 0.0 10 20 30 40 50 60 70 80 90 100 0 by shading, functions **Network Constraint** ♦ Sales 3.0 O Regional Ops ▲ Product Support 2.5 r = .96 for Administration Z-Score Compensation 2.0 high status 1.5 1.0 0.5 r = .03 for low status 0.0 -0.5 -1.0 -1.5 10 20 30 40 50 60 70 80 90 100 0 **Network Constraint**

7.0

6.0

5.0

4.0-

8





Sociogram is Figure 3.2 in Neighbor Networks and the graphs are from Figures 1 and 2 in Burt & Merluzzi discussion of the link between brokerage and network status as a reputation measures (2013, "Embedded brokerage," Research in the Sociology of Organizations)

Regions indexed

by shape



Brokerage-Achievement Association, Contingent on Network Status in Second Life

Achievement is the canonical correlation dependent variable in Model 15, Table S5. "High" status is above median. Scores on the y-axis are average achievement scores for avatars within integer intervals of nonredundant contacts (left) or five-point intervals of network constraint (right). Statistics are based on averages plotted in the graph. See Table S8 for regression results with controls showing higher returns to brokerage for individual avatars with high status.

