

# COMMUNICATE OR PERISH. PREDICTING INNOVATIVE BEHAVIORS VIA EMAIL COMMUNICATION ANALYSIS.



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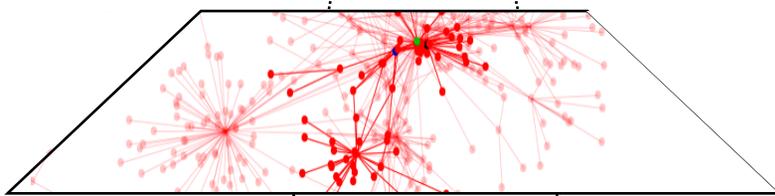
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**Francesca Grippa**  
*Northeastern University*

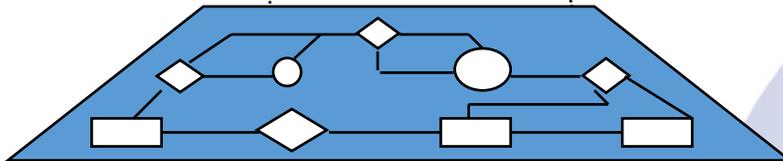


# KNOWLEDGE FLOW OPTIMIZATION & ORGANIZATIONAL SELF-AWARENESS

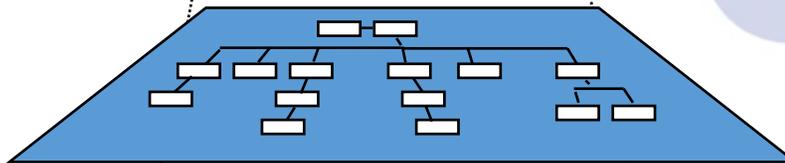
KNOWLEDGE FLOW



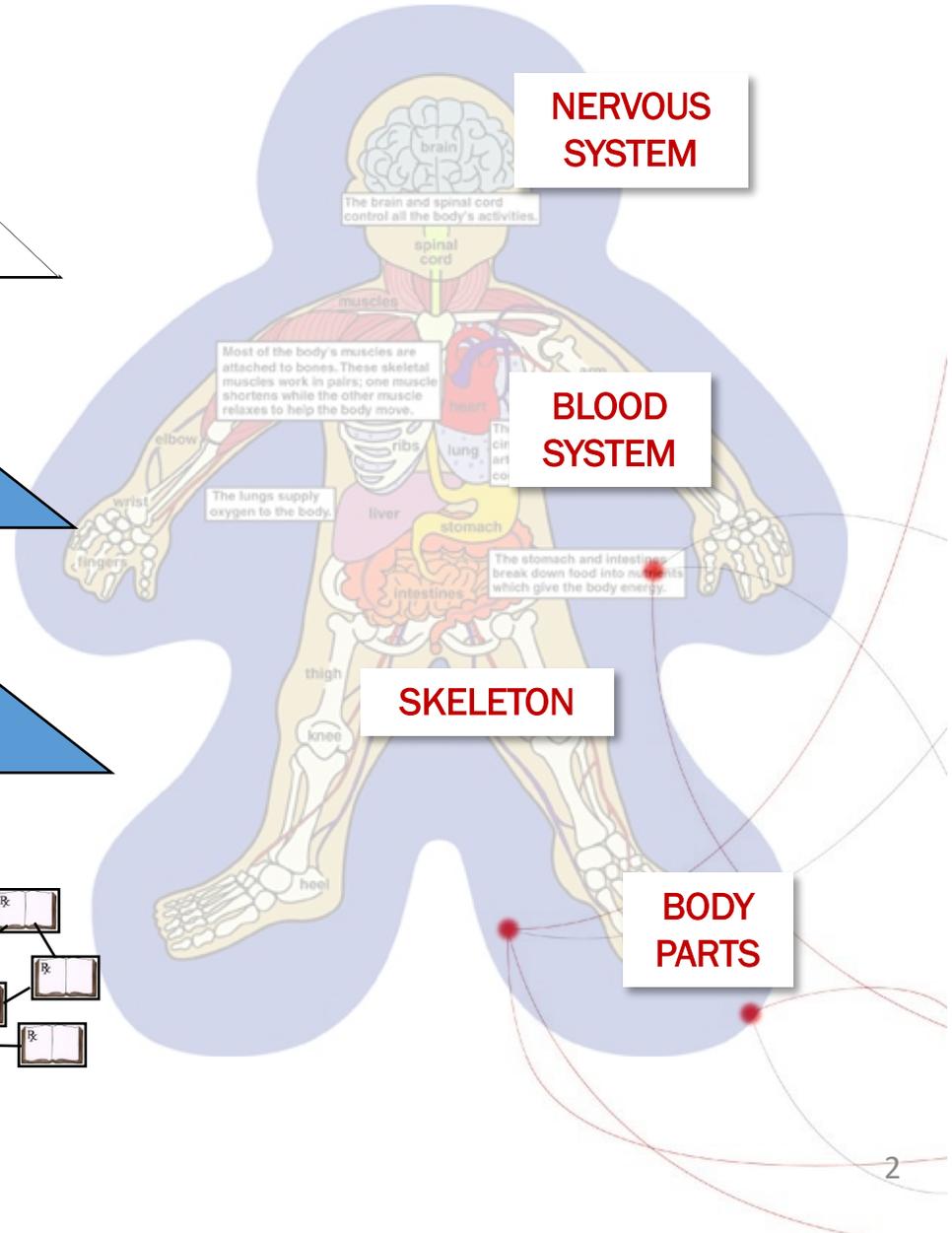
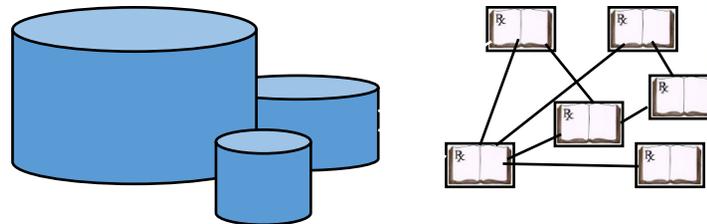
BUSINESS PROCESS



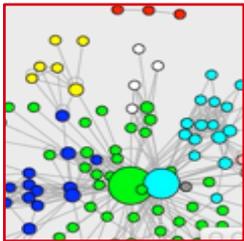
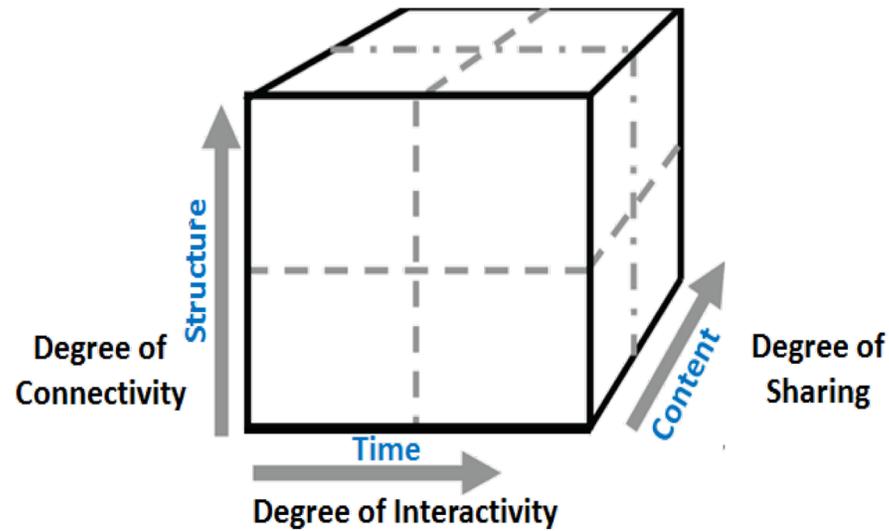
ORGANIZATIONAL STRUCTURE



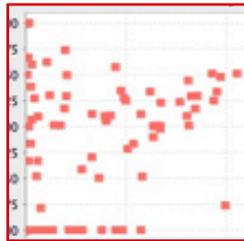
DATA



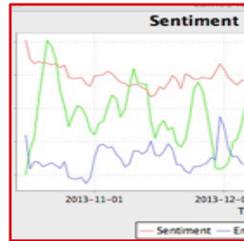
# 6 HONEST SIGNALS OF COLLABORATION



**CENTRALITY OF LEADERS**



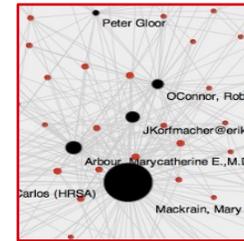
**ROTATING LEADERSHIP**



**SENTIMENT EMOTUALITY COMPLEXITY**



**BALANCED CONTRIBUTIONS**

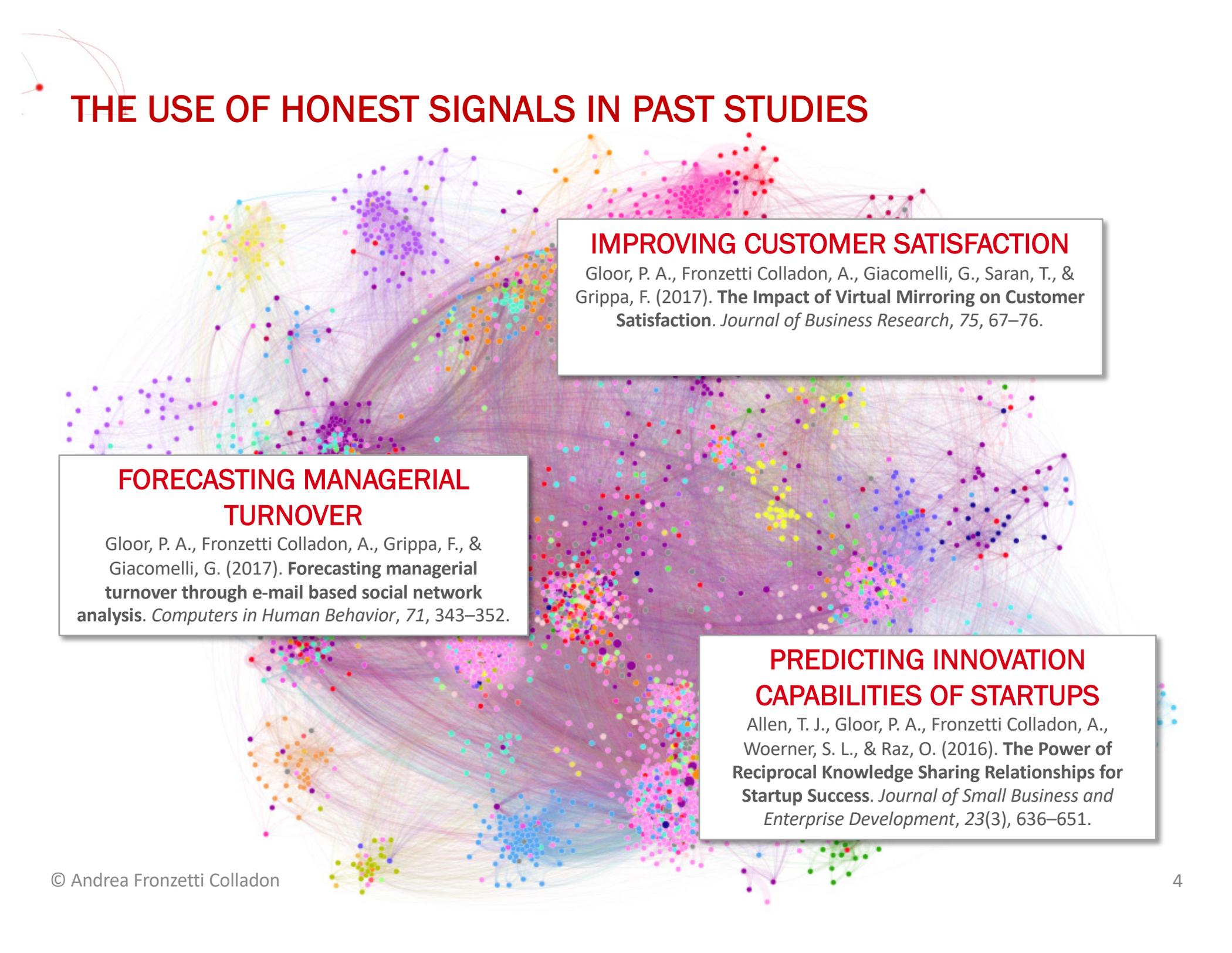


**AVERAGE RESPONSE**



**USE OF LANGUAGE**

# THE USE OF HONEST SIGNALS IN PAST STUDIES



## IMPROVING CUSTOMER SATISFACTION

Gloor, P. A., Fronzetti Colladon, A., Giacomelli, G., Saran, T., & Grippa, F. (2017). **The Impact of Virtual Mirroring on Customer Satisfaction.** *Journal of Business Research*, 75, 67–76.

## FORECASTING MANAGERIAL TURNOVER

Gloor, P. A., Fronzetti Colladon, A., Grippa, F., & Giacomelli, G. (2017). **Forecasting managerial turnover through e-mail based social network analysis.** *Computers in Human Behavior*, 71, 343–352.

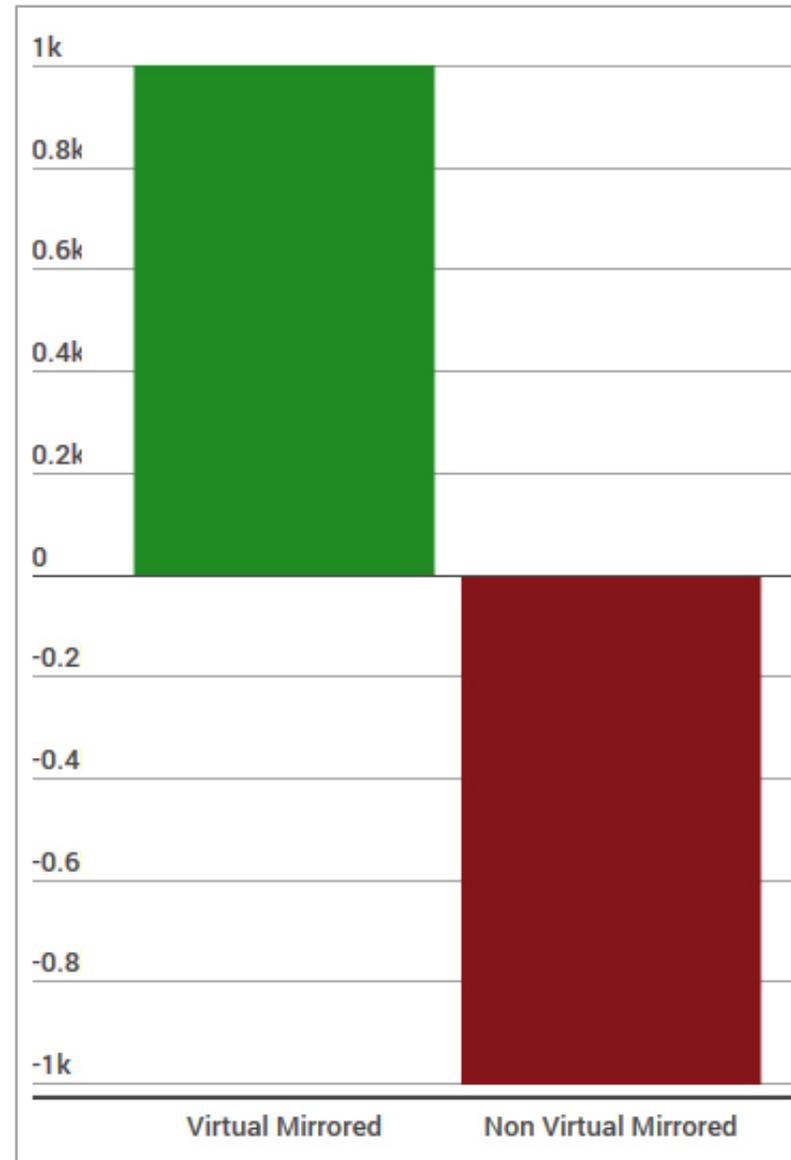
## PREDICTING INNOVATION CAPABILITIES OF STARTUPS

Allen, T. J., Gloor, P. A., Fronzetti Colladon, A., Woerner, S. L., & Raz, O. (2016). **The Power of Reciprocal Knowledge Sharing Relationships for Startup Success.** *Journal of Small Business and Enterprise Development*, 23(3), 636–651.

# HONEST SIGNALS TO CALIBRATE PERFORMANCE



**THE VIRTUAL MIRRORING  
PROCESS**



## CASE STUDY

1. **EMAIL** COMMUNICATION ANALYZED IN THE **2Q 2016**
2. **2000** EMPLOYEES IN THE R&D DEPARTMENT OF A GLOBAL ENERGY FIRM
3. **ABOUT 2,000,000** EMAILS
4. **ONLY U.S.** FOR CONSISTENCY OF CULTURE, TEAM SIZE, AND INTERNAL RULES



# INNOVATORS ARE NOT ALL THE SAME



**TOP INNOVATORS**

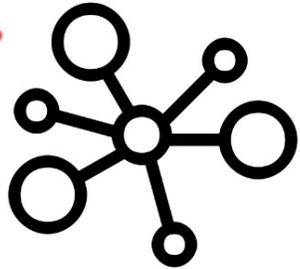


**AWARD ORIENTED**



**PRODUCT ORIENTED**

# STUDY VARIABLES



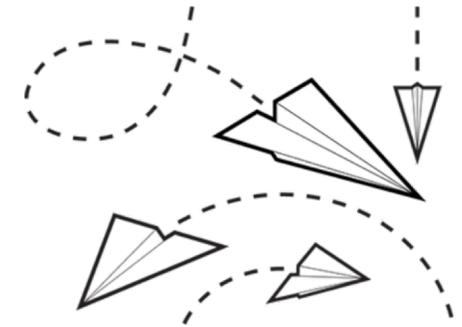
DEGREE &  
BETWEENNESS  
CENTRALITY



EGO & ALTER  
AVERAGE  
RESPONSE TIME



EGO & ALTER  
NUDGES



UNBALANCE IN  
MESSAGES SENT  
AND RECEIVED

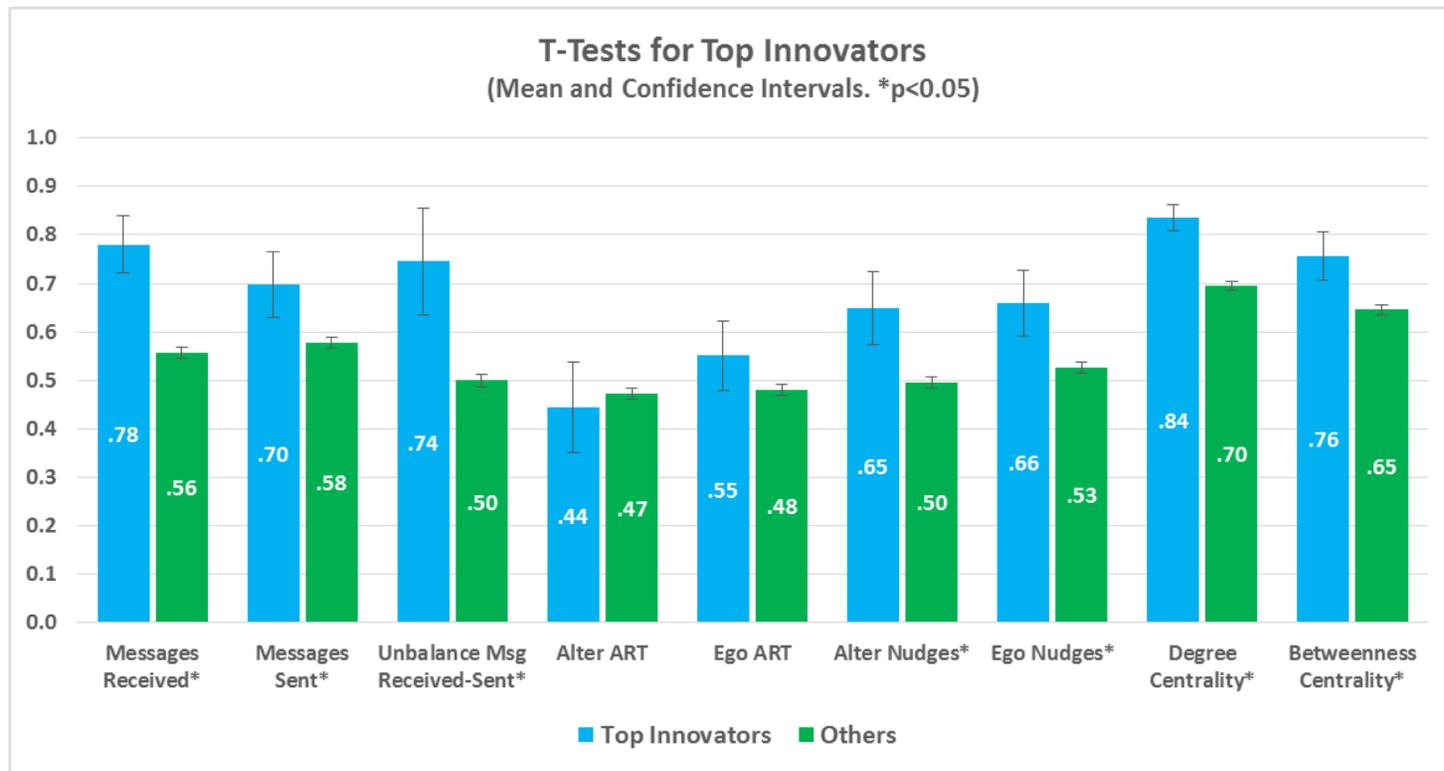
## STUDY LIMITATIONS

- ❑ LACK OF CONTROL VARIABLES (AGE, GENDER, TENURE, ...) AS PER AGREED PRIVACY ARRANGEMENTS

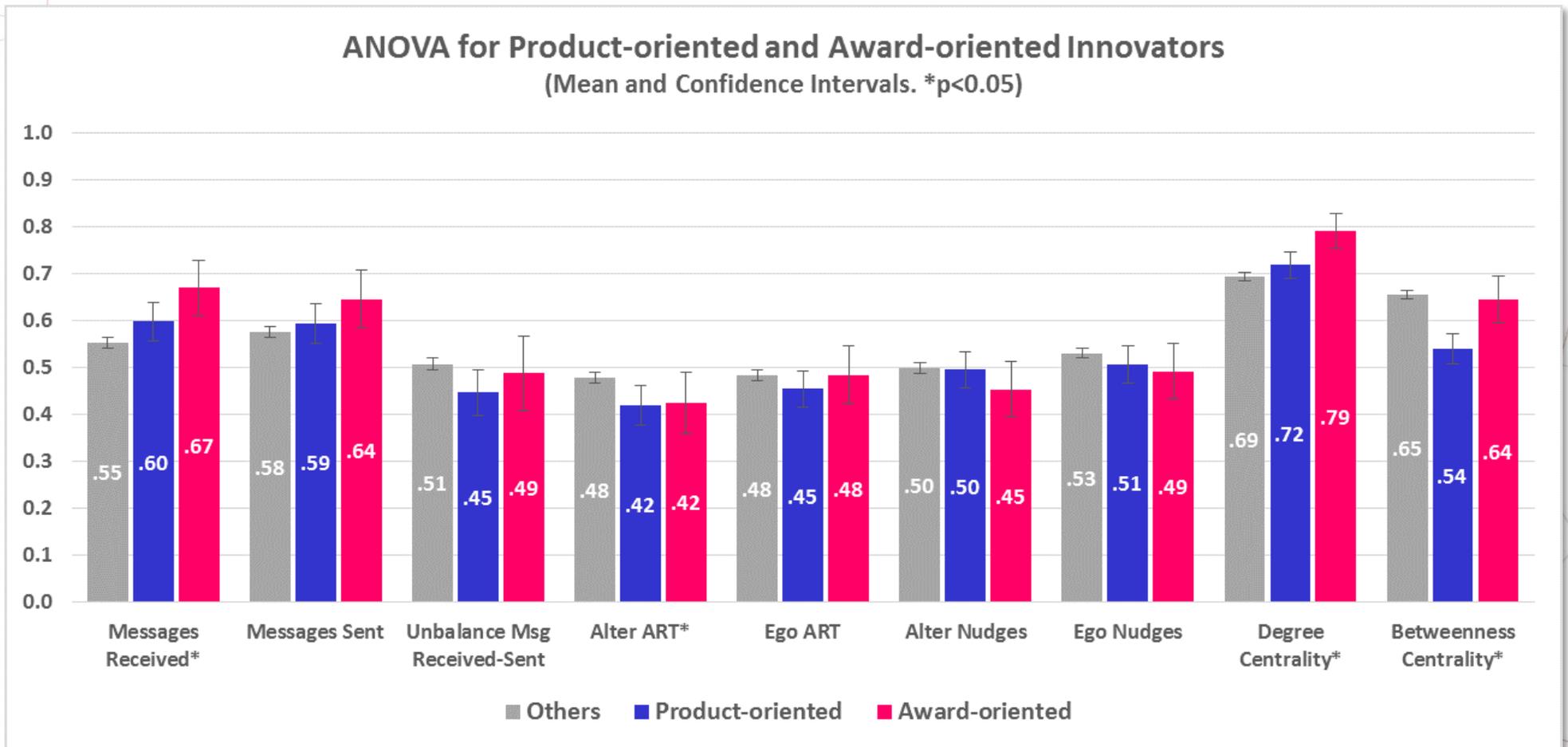
# IDENTIFYING THE TOP INNOVATORS

1. MORE EGO NUDGES COMMITMENT  $\approx$
2. MORE MESSAGES RECEIVED KNOWLEDGE  $\approx$
3. HIGHER DEGREE CENTRALITY = MORE DIRECT CONTACTS

**LOGIT MODELS**  
McFadden's  $R^2 = 0.204$



# AWARD ORIENTED vs PRODUCT ORIENTED



# FINDING THE INNOVATORS COMMUNICATION DNA

