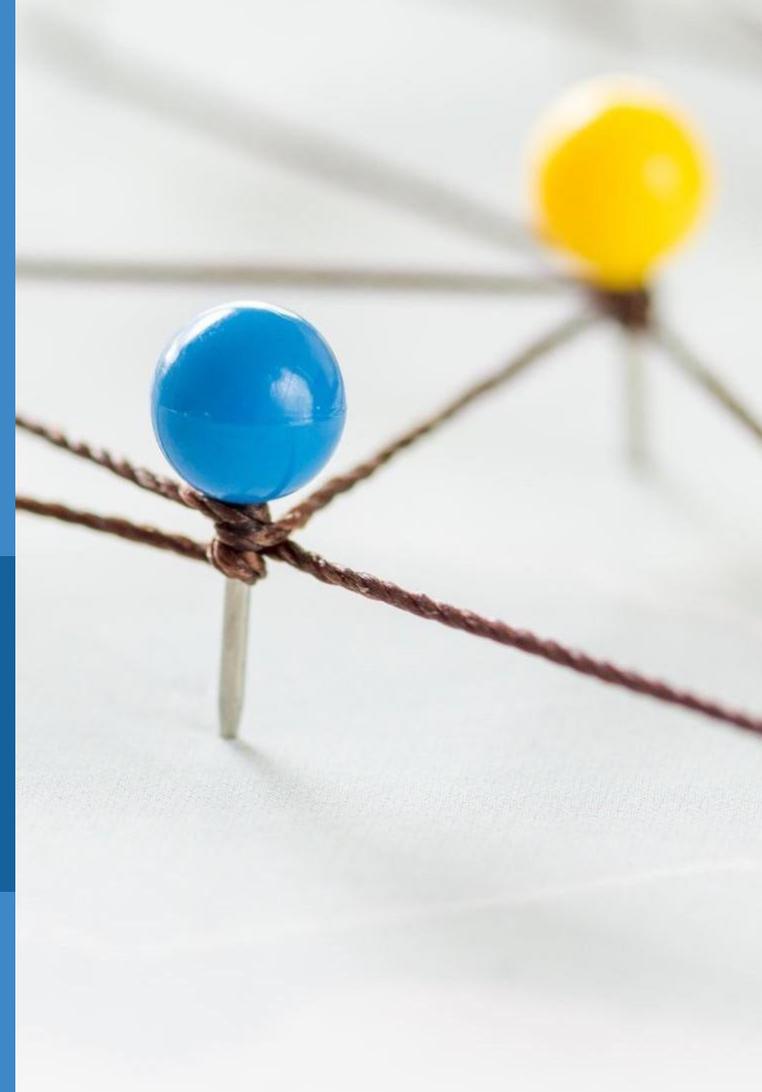


Social Network Analysis Company Insights



Research conducted and validated by
third-party Data Science team, in
partnership with the Prodoscore
Research Council

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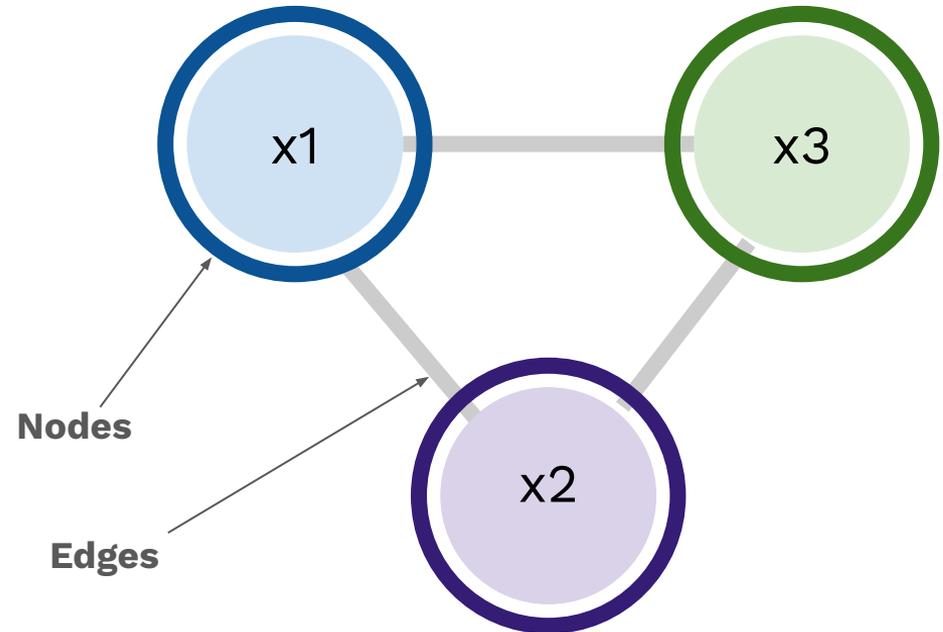
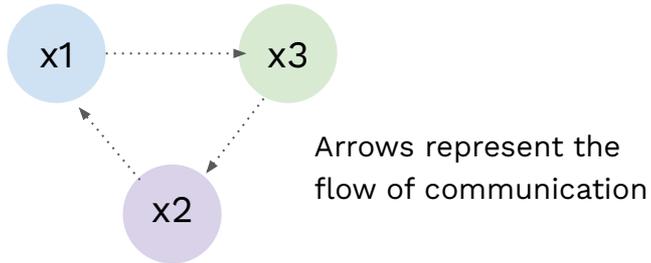
What is social network analysis?

- The study of relationships between people
- Can be used to understand how people are connected, how they communicate, and what influence they have on each other
- Important for businesses because it allows leaders to understand and capitalize on the relationships between their employees and other internal stakeholders
- Can help identify key influencers, understand the flow of information and trust within the organization, and find new opportunities for business growth through collaboration



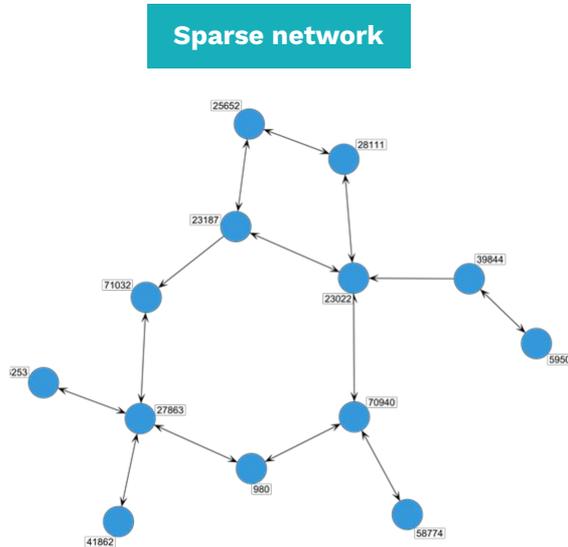
What does a social network consist of?

- **Nodes** represent employees
- **Edges** represent the shared connection (message) between two nodes

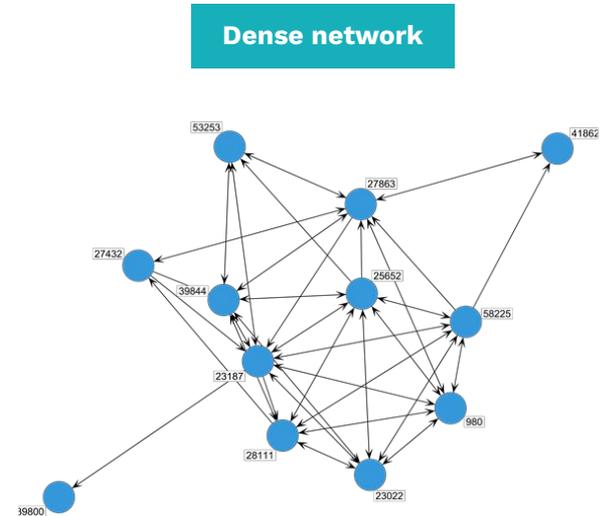


Social Network Density & Productivity

- Denser networks are associated with higher productivity
- Network density accounts for >10% of daily productivity across a company
- Comparing the top 10 most connected days to the rest of the dataset, we see that a company's productivity increases by 7.7% on days internal communication networks are most dense



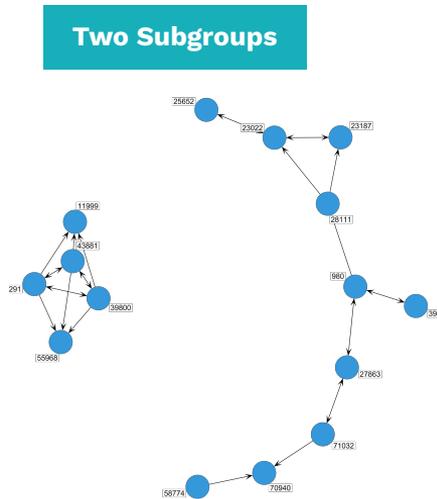
When network density is sparse, employees are expected to be less productive.



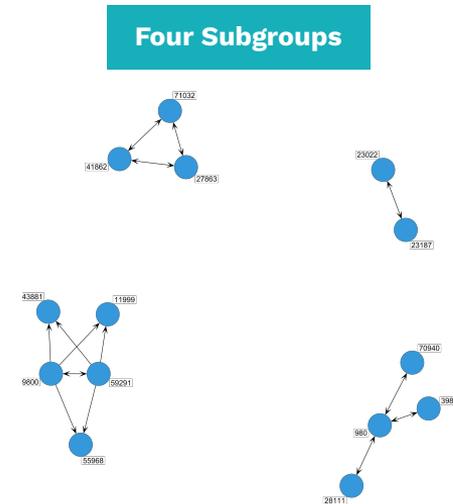
Employees in dense networks are expected to collaborate on message and chat, voice and video, and documents more often than on days when network density is sparse.

Productivity Killers

- There's a strong negative relationship between a network's density and the number and strength of subgroups that exists within a communication network
- As communication between subgroups strengthens and employee groups silo themselves, we see a significant, negative impact on company productivity
- Images below visualize days where dense employee silos emerged and productivity across the company dropped.

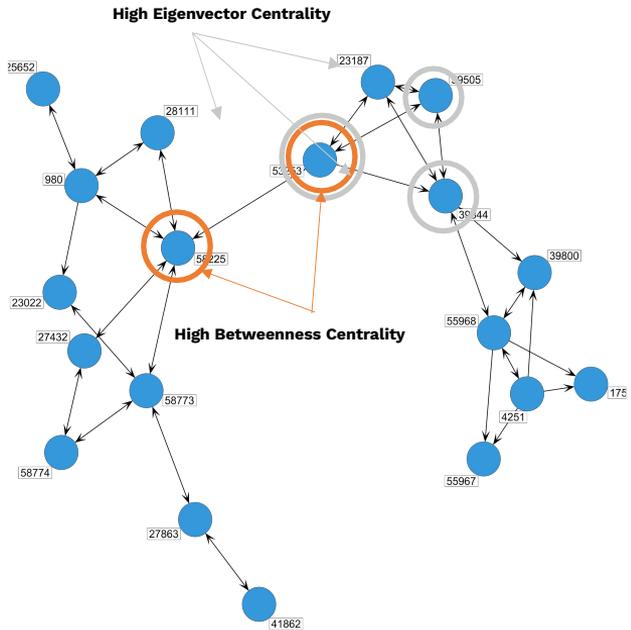


On this day, communication across the company followed a sequence indicating a potential lack of efficiency



On this day, employees worked in silos with zero communication across silos

Centrality and Productivity



Centrality measures the importance of an employee based on their interactions and location within a network.

- The higher the centrality number, the more important the employee
- Employees with higher centrality numbers are more productive and use technologies based in collaboration at a higher rate.
- Additionally, we observe that those who message others more often than they receive messages have higher productivity scores

Important Centrality Metrics

- **Betweenness Centrality**
 - How often does an employee bridge a communication path between two other employees or employee groups?
 - Employees with higher betweenness centrality tend to message others more frequently than they receive.
 - Higher numbers are associated with higher activity on email and messaging and chat.
- **Eigenvector Centrality**
 - Measures the extent employees are connected to important individuals within a network
 - Higher numbers are associated with a higher tendency to use email, voice and video, messaging and chat, and documents more than when those less central



Key Takeaways

Collaboration Drives Productivity

1. Denser employee communication networks, are associated with higher employee productivity.
 - Fewer employee subgroups means higher productivity across a company
2. Highly connected and central employees within a communication network have higher productivity scores.
 - These employees are regularly associated with higher email, voice and video, messaging and chat, and document use scores than those less central
 - This relationship is most significant for administrators
3. Both receiving and sending messages internally are associated with higher levels of productivity.
4. Employees who send more messages than they receive tend to use email at a higher frequency
5. High and average producers receive a similar number of messages, but high producers tend to respond and message more people.
 - Additionally, high producers tend to act as communication bridges between employees, regularly.