Extending Cross-Generational Knowledge Flows Research in Edge Organizations

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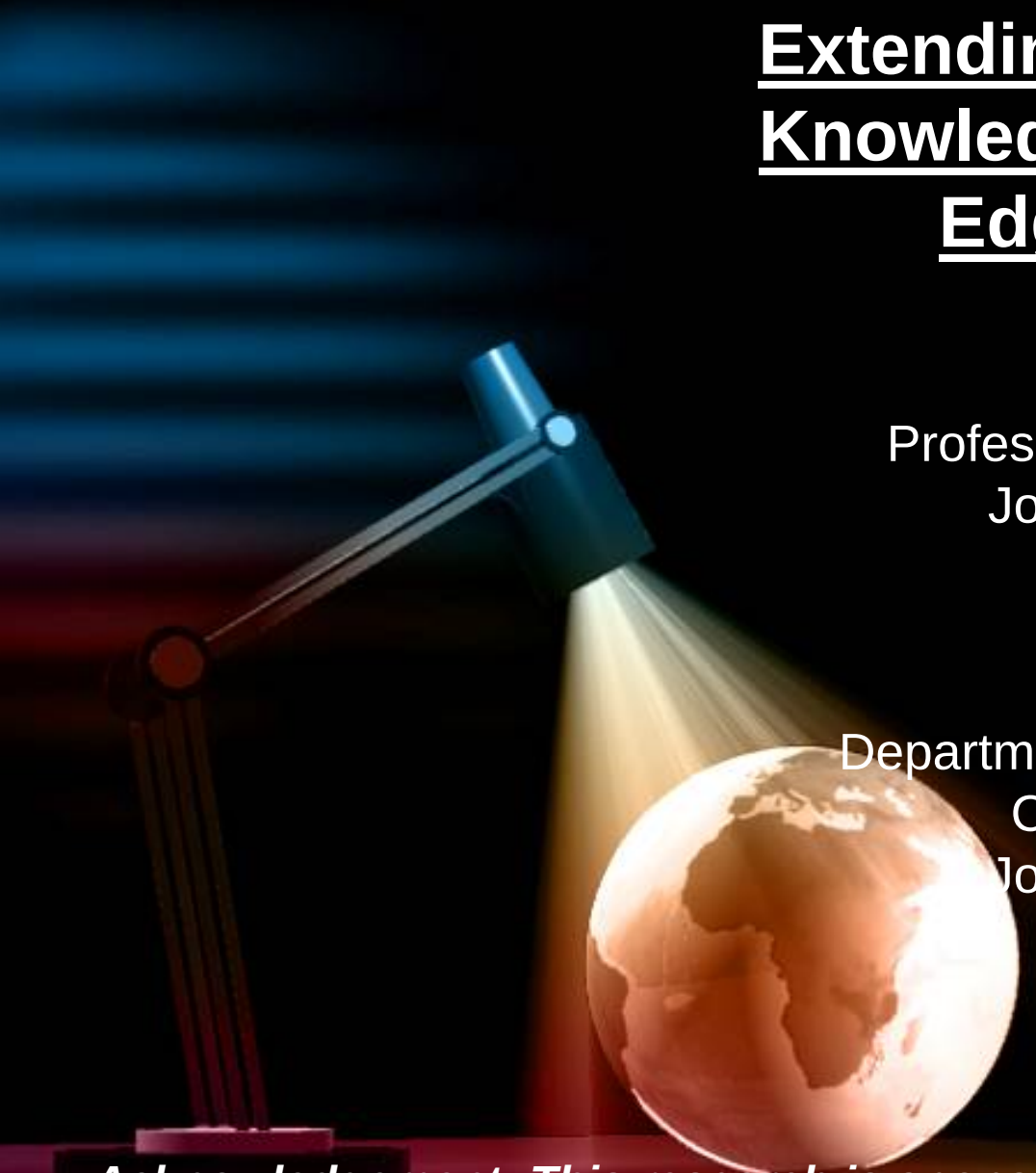

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Edge Organization Factors

- Interoperability
- Agility
- Shared awareness
- Decentralized knowledge and command
- Situational leadership
- Pull and smart
- Competence
- Robustness
- Network-centric focus

Research Focus

- To address the ways edge-like teams can overcome possible cross-generational biases in order to enhance knowledge flows for improved team productivity
- To determine type of knowledge and cross-generational knowledge flows that are critical to the success of edge organizations
- To provide recommendations on critical success factors for enabling cross-generational knowledge flows in edge organizations

Research Methodology

- Step 1: Examine the field of ontologies to build an ontology for cross-generational knowledge flows in edge organizations
- Step 2: Apply the ontology as a framework in order to determine types of knowledge and cross-generational knowledge flows that are critical to the success of edge organizations

Research Methodology (cont.)

- Step 3: Quantitatively and Visually Analyze the Social Networks (SNA—UCINet/Netdraw)
  - A survey instrument is designed to identify the knowledge flows and knowledge gaps in two case studies
  - Social/organizational network analysis is used to help identify, understand, and visualize these knowledge flows in order to provide recommendations on critical success factors for enabling cross-generational knowledge flows in edge organizations

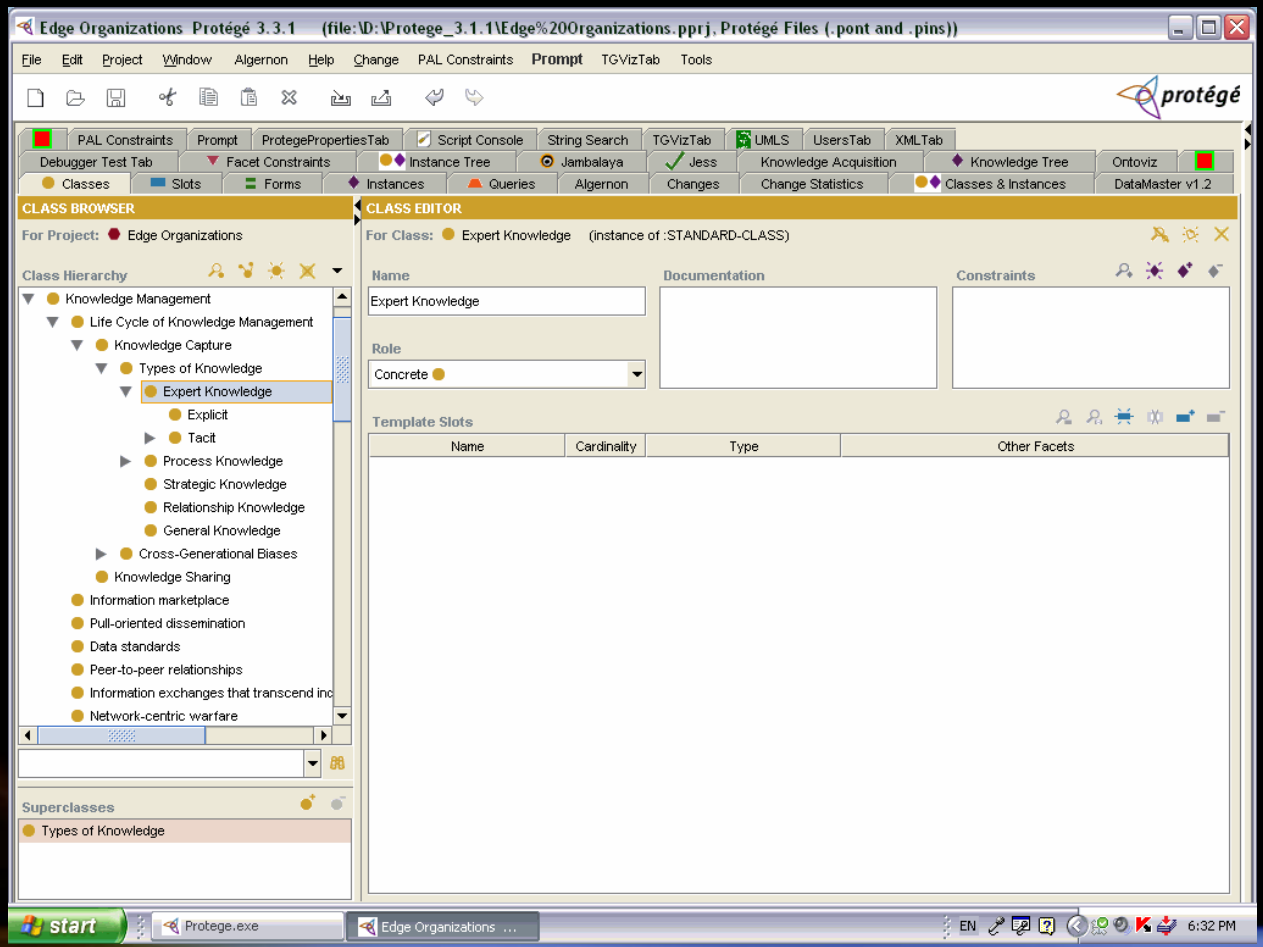
Surveyed Organizations

- Net - Navy KM team
- Telv - Intelligent transportation system software team

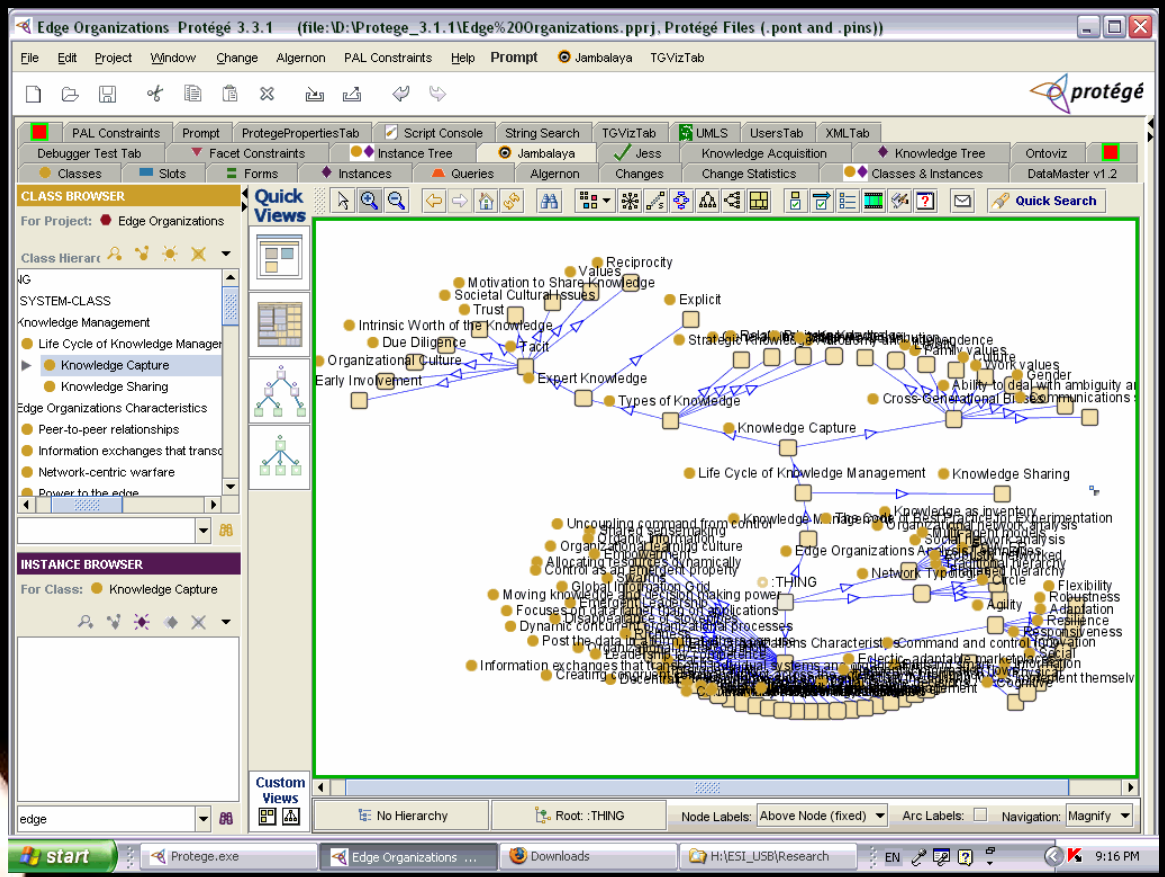
Developing Ontology

- Analyzed our key reference sources to look for important classes, instances, and relationships between terms
- The resulting models (classes and instances) can be loaded and saved in various formats, including Extensible Markup Language (XML), Unified Modeling Language (UML), and Resource Description Framework (RDF)

Developed Ontology



Our Domain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Edge Organizations Characteristics
Peer-to-peer relationships
Information exchanges that transc
Network-centric warfare
Power to the edge
INSTANCE BROWSER
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Survey Responses and Analysis

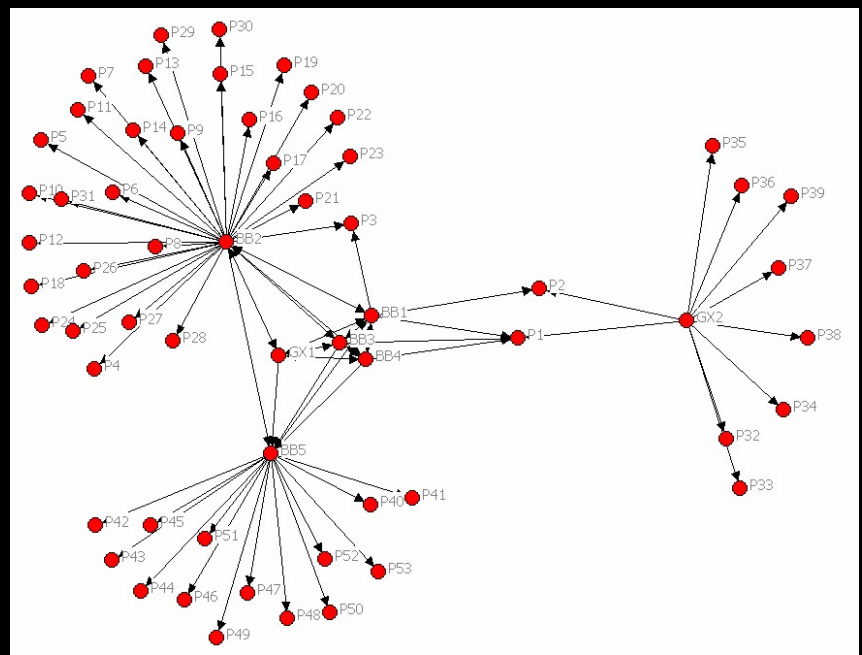
- Questions (a) through (i) relate to the characteristics of an edge organization
- Questions (j) through (s) relate to characteristics of cross-generational knowledge flows.
- The average ratings from the team members of the case organizations show, within some slight varying degrees, that they possess the necessary characteristics of being an edge-like team

Survey Responses and Analysis (cont.)

- There were some trust, reciprocity, and communication flow issues that existed, mostly with the Telv team
- Those could inhibit how successful the team would be in cross-generational knowledge flows

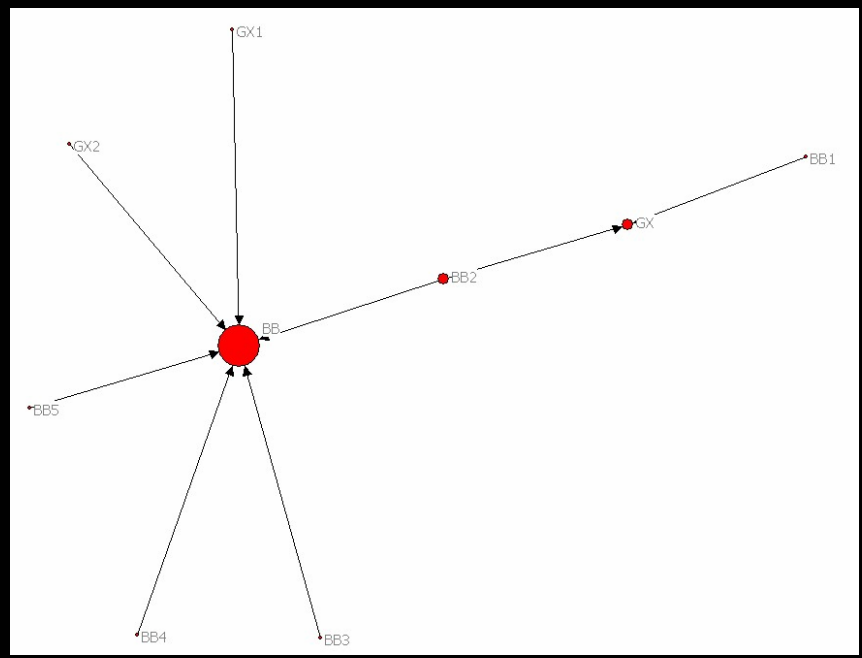
Net Team Layout by Generation

- Spring embedding- position the network actors based on their geodesic distances and to analyze the direction and strength of the knowledge flows in the network
- BB - Baby Boomer, GX - Generation X'er, P - Person Contact
- BB2, BB5, and GX2 are "cutpoints" - emerge if the network is cut into loosely coupled components
- They could be knowledge enablers, but could also play the role of knowledge inhibitors if wanted
- The knowledge flows can be affected by these individuals

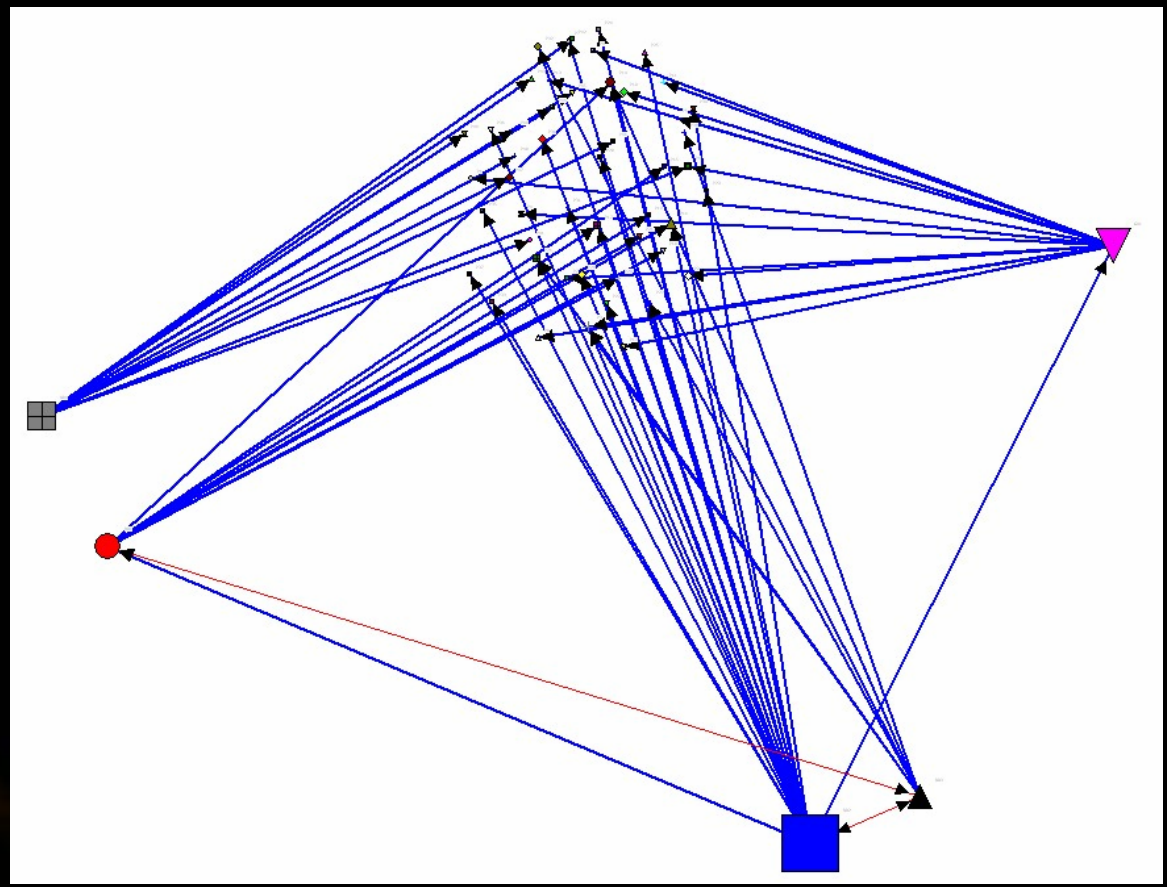


Net Team (Degree of Centrality)

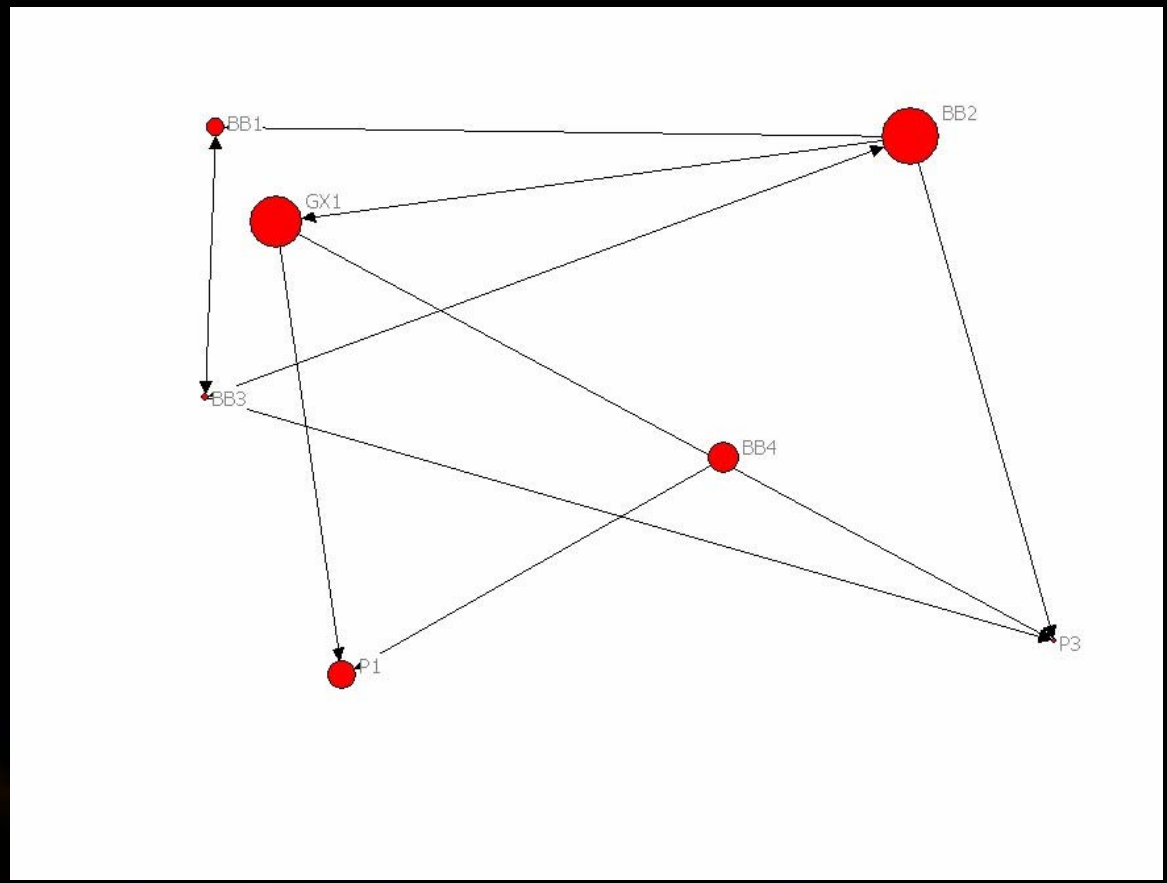
- Converting the P to their appropriate generation, some interesting results appear
- Most of the persons contacted for advice were Baby Boomers
- However, cross-generational knowledge flows take place between the Baby Boomers and the Generation X'ers, as shown by GX1 and GX2 contacting the BB, and BB1 and BB2 contacting the GX, and BB2, BB3, BB4, and BB5 contacting the BB



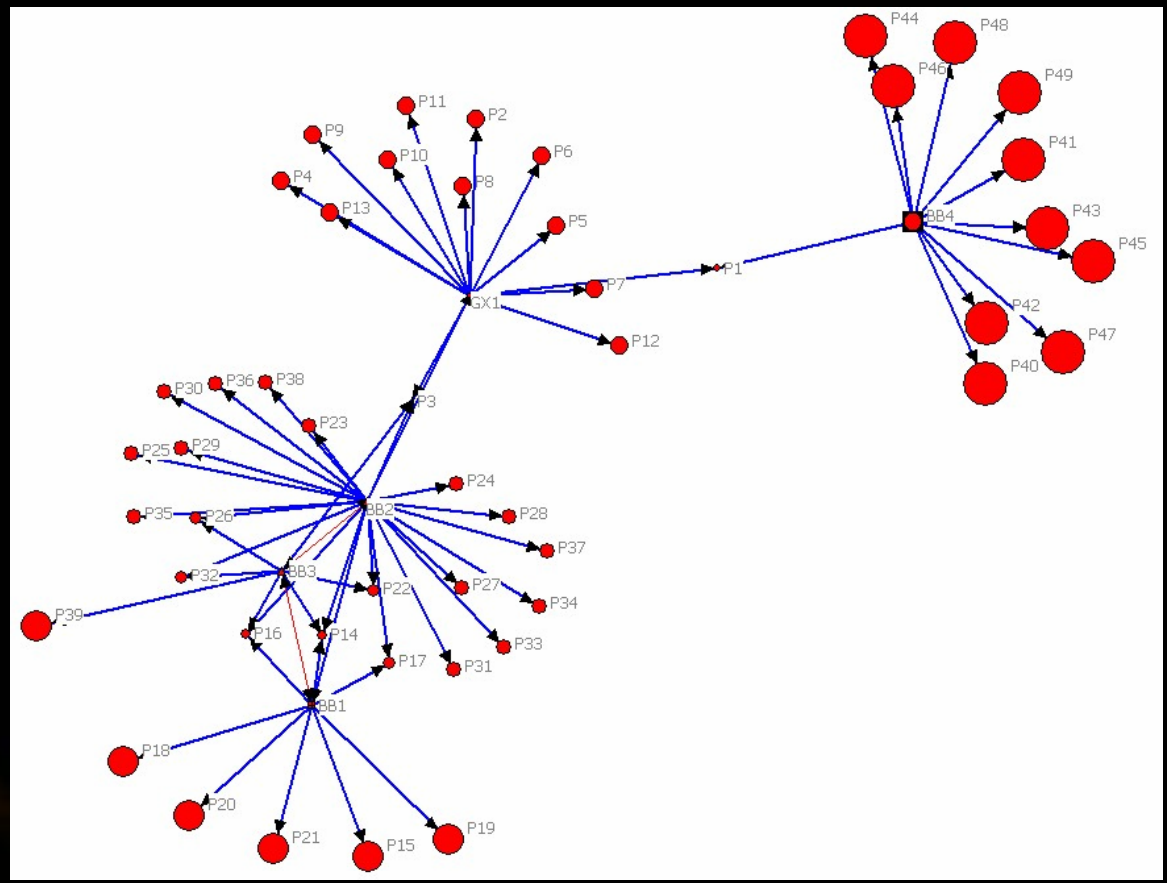
Telv Team and their Contacts in Terms of Years of Professional Experience



Telv Team Betweenness Centrality

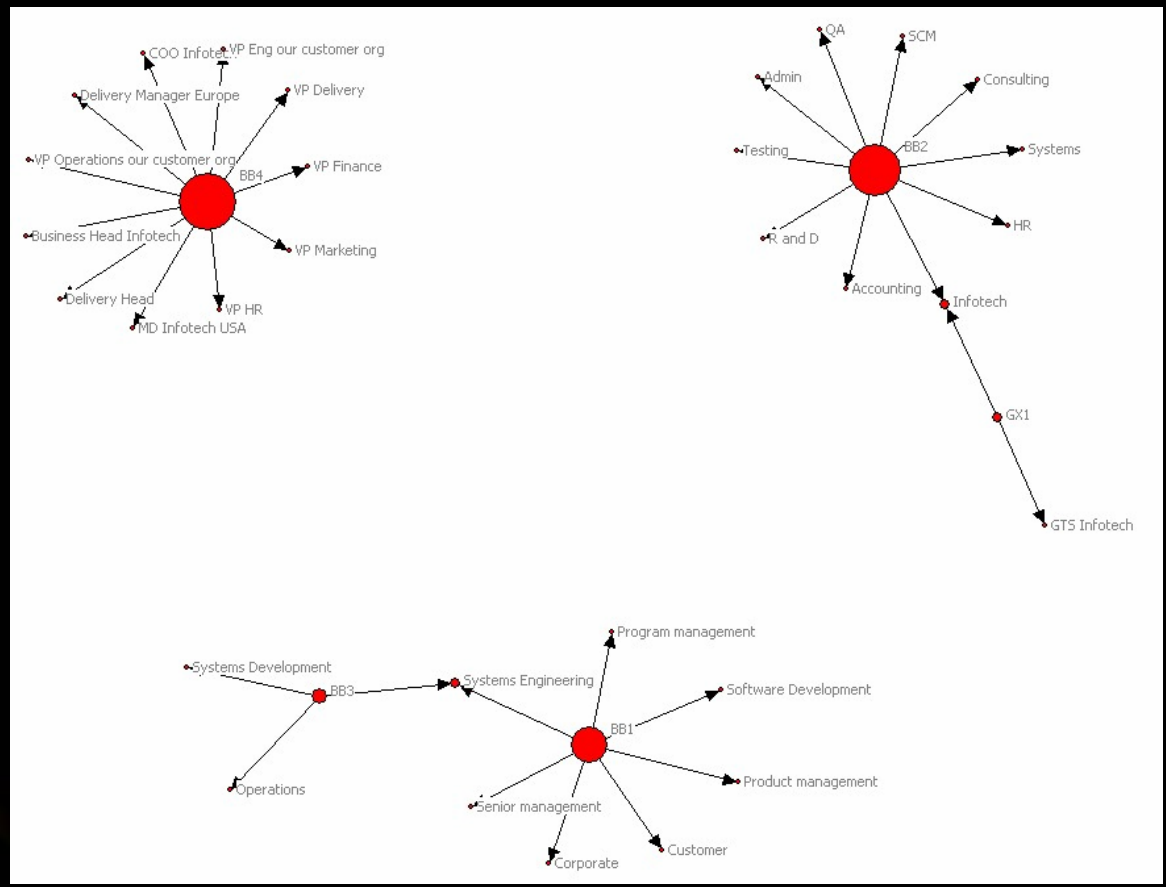


Telv Team: Relationship Length

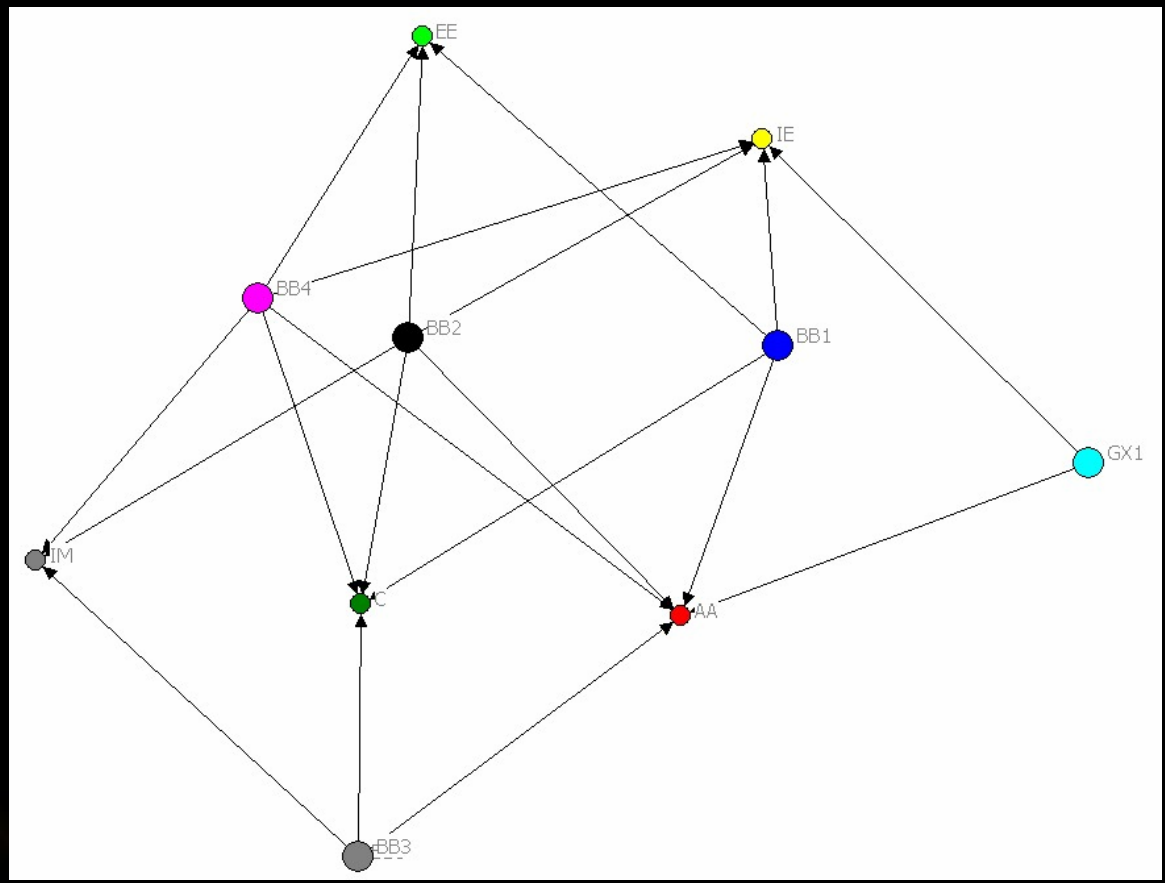


Telv Team Organizational Department Contacts:

Spring Embedding



Telv Team ID versus Infotopic



Telv Findings

- In analyzing the Telv team, the team members were either Baby Boomers or Generation X’ers. The Boomers had either 7-10 years of professional experience or 11-15 years
- The Gen X’ers had 4-6 years of professional experience. The Boomers on the team sought out people who had more years of experience (typically 5-10 years) than those sought out by the Gen X’ers (1-2 years)
- This isn’t unusual as the Boomers had been working at Telv longer than the Gen X’ers and had developed longer relationships over those years

Summary of the Findings

- Important as critical success factors for cross-generational knowledge flows:
  - Shared understanding; reciprocity; intrinsic worth of the knowledge; subset of overlapping values to reduce generational gaps; convenient knowledge transfer mechanisms; and established trust/rapport.
    - » Shared understanding refers to having a mutual conveyance and agreement of ideas that are shared between two parties.
    - » Reciprocity refers to being willing to share one's knowledge because given a similar situation, the knowledge recipient would share

Summary of the Findings (cont.)

  - » Intrinsic worth of knowledge refers to the value and merit of the knowledge being conveyed. A subset of overlapping values to reduce generational gaps is also important to lead to a common, shared understanding.
  - » Convenient knowledge transfer mechanisms need to exist for cross-generational knowledge flows so that “user adoption” will be enhanced. These knowledge transfer mechanisms could be either codified or personalized approaches to sharing knowledge.
  - » Interpersonal trust and respect for each other will enhance knowledge sharing as well.
- Knowledge sharing was more likely to occur with individuals with pro-social traits--that is, people concerned more about the group collective goals versus individual agendas

Future Research

- In looking ahead towards the future, research in cross-generational knowledge flows, particularly in the context of edge organizations, is fertile ground
- Our exploratory case study approach is limited and generalizability may be difficult to attain due to the inherit qualities of the case study method. However, we believe our research confirms many of the hypotheses from our earlier research (Liebowitz et al., 2007).

Thank you…

Any questions?