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Managing Creativity: Oxymoron or Necessity?
Celik, Sine and Van Engelen, Jo and Brezet, Han and Joore, Peter and Wa, Linda

Suggested citation:
Managing Creativity: Oxymoron or Necessity?

An analysis of social networks for enhancing regional creative output

15.10.2016
RSD5 Conference
TORONTO

Sine Celik
PhD Researcher
Faculty of Industrial Design Engineering
Delft University of Technology

~

Chair of Open Innovation
NHL University of Applied Sciences

Jo Van Engeelen
Han Brezet
Peter Joore
Linda Wauben
• originates from Frisian Kingdom
• for centuries long surrounded by enemies: neighbors & nature
• learned to solve their own problems, but kept them to themselves
• became a part of NL in 1813
• population ca. 646,000
• Frisian is the official language (not a dialect of Dutch)
• strong cultural identity
• main sources of income: agriculture & tourism
GENERATION Y/Z
A TYPICAL FRISIAN STORY
Complex problem

- Many solutions, none can be satisfactory for all actors.
- We approach it from the millennial’s perspective.
- This potential has to be facilitated by society.
• ‘Something’ must be going on to attract/keep the future generations.

conversation, demoscopio, emergence, poliscopy: first step towards innovating, self-sustainable communities, resilience.
CREATIVE EMERGENCE
It is the source of innovation

Creative emergence

Innovation
ENCOUNTERS TRIGGER CREATIVE EMERGENCE
COMMUNITY ENABLES ENCOUNTERS

COMMUNITY

CREATIVE EMERGENCE

INNOVATION

COMMUNITY ENABLES ENCOUNTERS
A DEFINITION OF SUSTAINABILITY?
ARE FRISIANS SIMPLY LESS CREATIVE
OR
COULD THIS BE AN ISSUE OF FACILITATING ENCOUNTERS?
WHY A SOCIAL NETWORK ANALYSIS?:
ACKNOWLEDGE THE COMPLEXITY

UNDERSTANDING THE CURRENT SITUATION

ANALYZING ENCOUNTERS

DEFINING WHICH PARTS NEED INVESTMENT

MANIPULATING EXISTING SYSTEM
SOCIAL NETWORK ANALYSIS FRYSKLAN

PRE-STEP: DEFINE RELEVANT RELATIONSHIPS (NETWORKS)

STEP 1: DEFINE NETWORK REPRESENTATIVES (WHO TO INTERVIEW)

STEP 2: CREATE A LIST OF ACTORS (DEFINE ALL NODES)

STEP 3: RUN INTERVIEWS (DEFINE NODE SIZES & LINK INTENSITY)

STEP 4: ANALYSIS OF DATA (NETWORK MEASURES)

STEP 5: SYNTHESIS OF DATA (TESTING HYPOTHESIS)
Networks are relationships, not groups of actors.
Networks are relationships.
Same group of actors can form various networks.
PRE-STEP: RELEVANT RELATIONSHIPS

INNOVATION

MANAGERIAL LINE OF WORK
CREATIVE LINE OF WORK

OPERATIONALIZATION OF A NOVEL IDEA
OPERATIONALIZATION OF A NOVEL IDEA

MANAGERIAL LINE OF WORK

CREATIVE LINE OF WORK

LINEAR
OUTPUT ORIENTED
SIMPLIFIED

CYCLIC / ITERATIVE
PROCESS ORIENTED
COMPLEX
DISCURSIVE
OPERATIONALIZATION OF A NOVEL IDEA

MANAGERIAL LINE OF WORK

LINEAR
OUTPUT ORIENTED
SIMPLOIFIED

CREATIVE LINE OF WORK

PARADOXICAL
RELATIONSHIP

CYCLIC / ITERATIVE
PROCESS ORIENTED
COMPLEX
DISCURSIVE

OPERATIONALIZATION OF A NOVEL IDEA
PRE-STEP: RELEVANT RELATIONSHIPS

INNOVATION

MANAGERIAL RELATIONSHIPS
CREATIVE RELATIONSHIPS
POLITICAL RELATIONSHIPS
FRIENDLY RELATIONSHIPS

4 DIFFERENT NETWORKS TO BE ANALYZED
STEP 1: DEFINE NETWORK REPRESENTATIVES

IN A REGULAR SNA YOU ASK PEOPLE ABOUT THEIR OWN RELATIONSHIPS
STEP 1: DEFINE NETWORK REPRESENTATIVES

IN NETREP METHOD
YOU ASK
A 3RD PERSON ABOUT
TWO OTHER’S
RELATIONSHIP
STEP 1: DEFINE NETWORK REPRESENTATIVES
STEP 1: DEFINE NETWORK REPRESENTATIVES

Innovation lobbyist
FRYSLAN
STEP 2: CREATE A LIST OF ACTORS

“IF WE ARE TALKING ABOUT ALL ASPECTS OF INNOVATION (DESIGN, MANAGEMENT, RESEARCH, FUNDING) WHO IN THE PROVINCE COULD BE INFLUENTIAL?”

~ 250 NODES

FROM 5 DIFFERENT GROUPS:
ACADEMIA
GOVERNMENT
NGO
SME
CORPORATES
STEP 2: CREATE A LIST OF ACTORS

"IF WE ARE TALKING ABOUT ALL ASPECTS OF INNOVATION (DESIGN, MANAGEMENT, RESEARCH, FUNDING) WHO IN THE PROVINCE COULD BE INFLUENTIAL?"

~ 250 NODES

FROM 5 DIFFERENT GROUPS:
- ACADEMIA
- GOVERNMENT
- NGO
- SME
- CORPORATES

BOSS OF PHILLIPS
THE MAYOR
THE STUDENT I SHARE MY DESK WITH
STEP 3: RUN INTERVIEWS

• 2 QUESTIONS PER NETWORK, 8 QUESTIONS IN TOTAL

PART 1 OF THE QUESTION:
• THEY NEED TO CREATE TOP 10 LISTS FOR EACH QUESTION
• 8X10 NAMES PER INTERVIEW

PART 2 OF THE QUESTION:
• THEY HAVE TO ASSESS THE RELATIONSHIP BETWEEN THE NAMES THEY GIVE
STEP 3: RUN INTERVIEWS

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**STEP 3: RUN INTERVIEWS**

**Question 2**

P1: Please make a top 10 list from the names on the Excel sheet, of people who are known to be the best solvers of managerial problems.

P2: Please rank the managerial communication between the people you have listed by using the matrix below.

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**solving managerial problems**
STEP 3: RUN INTERVIEWS

MANAGERIAL: funding, deadlines, outputs, reporting
- TO BE INVOLVED IN A START-UP
- SOLVING MANAGEMENT PROBLEMS

CREATIVE: new ideas, design, science, research
- TO BE INVITED TO A BRAINSTORMING SESSION
- SOLVING CREATIVE BLOCKAGES

POLITICAL: lobbying, policy-making, governance, liasion
- BEST LOBBYERS
- SOLVING POLICY-RELATED ISSUES

FRIENDSHIP: family, colleagues, love, acquaintance
- MOST TRUSTED
- MOST POPULAR
STEP 3: RUN INTERVIEWS

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- MOST TRUSTED
- MOST POPULAR

ITERATION: NEGATIVE ISSUES
- NOT LIKED
- MOST ALIENATING

POLARITY?
**STEP 3: RUN INTERVIEWS**

100 RELATIONSHIPS TO BE ASSESSED PER QUESTION × 8 QUESTIONS

---

**Question 2**

P1: Please make a top 10 list from the names on the Excel sheet, of people who are known to be the **best solvers of managerial problems**.

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**Universities and Logos**

- TU Delft
- NHL Hogeschool
- University of Florida
- Provinsje Fryslân
- Provincie Fryslân
STEP 4: ANALYSIS OF DATA

- 800 RELATIONSHIPS PER INTERVIEWEE
- SO FAR 18 NETWORK REPRESENTATIVES INTERVIEWED

- ANALYSIS TYPE 1: BINARY

- ANALYSIS TYPE 2: NONPARAMETRIC STATISTICAL ANALYSIS (WILCOXON SIGNED RANK TEST IN R)

STRUCTURAL HOLES
GATE-KEEPERS
(ON ALL 4 NETWORKS)

FREQUENCY / DENSITY
CENTRALITY
SEGMENTATION
(ON ALL 4 NETWORKS)
STEP 5: SYNTHESIS OF DATA

MANAGERIAL NETWORK

CREATIVE NETWORK

POLITICAL NETWORK

FRIENDSHIP NETWORK

SYSTEMIC INSIGHTS
## STEP 5: SYNTHESIS OF DATA

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STEP 5: SYNTHESIS OF DATA

MANAGERIAL LINE OF WORK

- LINEAR
- OUTPUT ORIENTED
- SIMPLIFIED

CREATIVE LINE OF WORK

- CYCLIC / ITERATIVE
- PROCESS ORIENTED
- COMPLEX
- DISCURSIVE

PARADOXICAL RELATIONSHIP

QUANTIFY IDEAL MANAGERIAL INTERRUPTION
SCIENCE IS A CREATIVE PROCESS TOO

ITERATIVE

DISCURSIVE

PRE-STEP: DEFINE RELEVANT RELATIONSHIPS (NETWORKS)
STEP 1: DEFINE NETWORK REPRESENTATIVES (WHO TO TALK TO)
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TO BE CONTINUED..
FIRST INSIGHTS

• Similar centrality patterns are traceable in all 4 networks.

• Same group of people are dominating all 4 networks.

• A very small portion of the nodes are considered influential. (40%)
FIRST INSIGHTS

HIGH SEGMENTATION!
FIRST INSIGHTS

(if Tim quits, these groups are separated!)

(if Jeroen quits, these groups are separated!)

(if Maartje quits, these groups are separated!)

(if Sharon quits, these groups are separated!)

(if Daniel quits, these groups are separated!)

TOO MANY GATEKEEPERS
DISCUSSION POINTS

METHODOLOGY:
1- CAN A NETWORK ANALYSIS EVER BE OBJECTIVE / SCIENTIFIC?

CONTENT:
2- IS DEFINING THE EXACT TIPPING POINT BETWEEN CREATIVE RELATIONSHIPS AND MANAGERIAL RELATIONSHIPS ENOUGH FOR RESOLVING THE PARADOX?

CONTEXT:
3- COLLECTIVE MEMORY EXCEEDS INDIVIDUAL MEMORY.
THANK YOU!

Sine Celik
g.s.celik@tudelft.nl

@sine_celik