

The communication/interaction : organizations, groups, individuals



THE SOCIAL NETWORKS OF THIS CLASS

The network's visualisation (sociogram)



Dimensions of the relationships under analysis

- 1) Professional : transference of information /knowledge sharing
 - 1) In this case: class notes/infos
- 2) Personal: friendship allows for open honest and less defensive communication
 - 1) In this case : hanging out/going out outside ISEG

A relationship that includes more than one dimension is called multiplex (it is stronger)

Strong relations and knowledge transfer



Asking for help/transferring knowledge is more probable among those that have a strong personal relationship because:

- Communication is easier
- There is better access
- More trust – so less risky (vulnerability , ignorance etc revealed does not have a high cost on ego)
- “Debts” are not charged (among friends debit/credits are not as relevant)
- More probable that they will take time and attention to one’s matters

Strong relations and knowledge transfer



- Multiplex relations – e.g: professional and personal– allow for trust and reciprocity and creates a context of innovation and creativity.
- The construction of a personal relation has high investments “costs” – time, energy, emotivity
 - It is difficult to have MANY strong relations

The structure of the network and its consequences



- The structure of the network – e.g more or less dense, more or less divided in small groups
 - Has an impact on the group's performance
 - ✦ Be it more fun, more learning, better grades ...

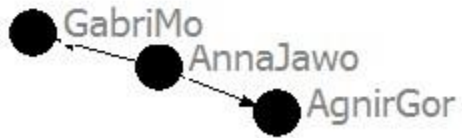
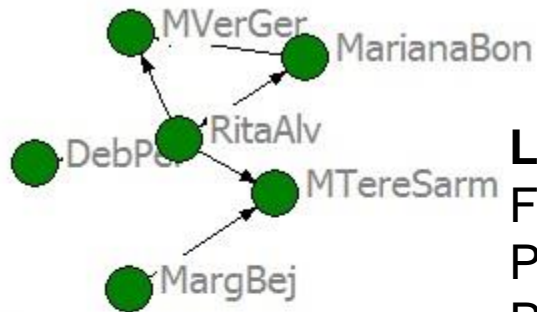
The clas network- just an exercise



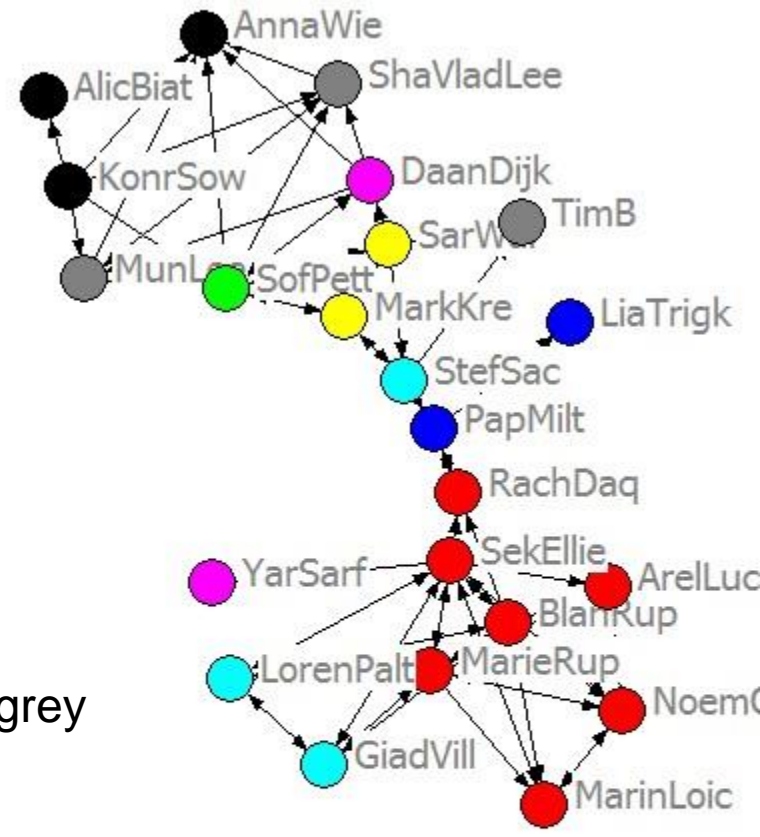
- **Previous notes:**
 - The idea is to illustrate a soial system such as an organisation, knowing that the class has very differente dynamic from an O' e.g does not have to fulfill common objecives
 - Some students have not answered he questionnaire
 - This questionnaire was answered in the first class – many relations have changed since that A
 - Errors of perception, memory are usual

Exchange of notes /class infos

aSou
gRams
ngNg
Drc



Legend :
 Fr – red
 Pt- pink
 Pol- black
 Swed – green
 Italy– light blue
 Greece- blue
 Austria – yellow
 Netherlands- pink
 Singapore /germany- grey



Analysing the communication/interaction network



- Beyond the visualisation → measure to characterise the network
- What should we care to know/find out?
 - **The whole network** – e.g. dense or sparse ? Does it have a core and periphery? Is it centralised?
 - **Groups**– e.g. is the network only one groups or is it divided? How many groups and which are the connections among them?
 - **Individuals** – who seems the most important? Who has the most impact on the network? Are there peripheral /isolated people ? Who better diffuses info ?

Density (cohesion)



- Class Work network– 4, 7% (of all possible relations)
 - Outside ISEG network: 5 %
- [Maximum density all linked = 100%]

Class work network is less cohesive than the hanging out network

WHY?

Average degree (cohesion)



- Another way of looking at density/cohesion
- Class Work network– 2 (= average # persons one has access to)
- Outside ISEG network– 2.136
- Do these values seem good or bad?

Individual Centrality = importance in the network



- Degree centrality – number of linkages of each actor
- **High centrality=**
 - More activity in the network,
 - Less dependence /more autonomy
 - More probability of receiving more info, more reliable and faster
 - Higher status (leader)
- **Does anyone have a prominent position in these networks?**

Low centrality = periphery/isolation



- More dependent on others to know what is going on ; the info takes longer to get to ego, it maybe filtered , and as such one cannot be sure if it is true
- These do not know or do not have a perception of those who have better quality information
- These are resources insufficiently used; their expertise is often ignored and there may be resources underutilised

Degree centrality in this class?



- Who has the largest choice to get good notes/infos on classes?
- Who has the higher probability of receiving info faster and more reliable ?
- Who has greater choice and number of people to go out with?

Top in number of linkages

	Class notes/info		Going out
SekEllie	9	SekEllie	9
BlanRup	8	BlanRup	8
MarieRup NoemCarr SofPett	7	MarieRup SofPett	7
KonrSow AnnaWie ShaVladLee MungLee ArelLuc LorenPalt	5	DaanDijk KonrSow MunLee AnnaWie SarWal ShaVladLee NoemCarr	5
GiadVill MariLoic DaanDijk	4	MarinLoic ; StefSac; GiadVill; RitaAlv LorenPalt ArelLuc	4

The direction of relations: nominating vs being nominated



- **Measuring non reciprocal relations :**
 - Indegree - # of nominations received
 - Outdegree – # of nominations sent

Highest in-degree = more power and autonomy; more prestige

Reciprocal relations – stronger relations

Brokerage/intermediation centrality



- **Intermediation** (“betweenness”)- calculates the degree to which actors are located in the shortest paths between two actors (those actors through which one needs to get through to reach others)
- Those with highest intermediation have greater power, social capital and capacity to innovate (they have access to a variety of sources of information)

Top of intermediation

	Class notes/infor		Going out
PapMilt	1st(131)	SekEllie	1st (55)
Stefsac	2nd (120)	YarSarf	2nd (44)
RachDaq	3rd (177)	GianNq	3rd (36)
SarWal	4th (66)	NoemCarr	4th (29)
Sek Ellie	5th (65)	AgnirGor	5th (26)
SofPett	6th (65)	SofPett	6th (24)
Blan Rupp	7th (44)	LouiHeurl	7th (14)
MarkKre	8th (32)	KonrSow	8th (9)
KonrSow	9th (21)	Sar Wal	9th (7.5)
DaanDijk	10th (16)	MarkKre	10th (7.5)
RitaAlv	11th (8)		

Degree Centrality (# links) vs intermediation /brokerage



- **Person with a high degree** = it is a central person in a cohesive group; there are strong expectations from the group towards how this person should act; if this person wants to remain as a “leader” of the group has to behave according to expectation of others; it is socially “comfortable” but restricts behavior
- **Person with high intermediation/brokerage** = makes linkages among different groups which have weak relations among; has a variety of info sources; has more freedom to behave

Having a high # of linkages (degree) + having to do intermediation/brokerage



- These are generally overloaded – do not have the time nor think of ideas to solve problems
 - They may be victims of their importance in the network – their have grown exponentially without them noticing it
 - Or they maybe being strategic to reinforce their power and information

To whom should I pass an info to be diffused?



- If the network is cohesive (many linkages among all) one should pass the info to those he with the highest number of links (highest degree centrality)
- If the network is fragmented my target should be those with the highest brokerage/intermediation
 - Even if the diffusion will be slower as compared to a network that is more cohesive
 - And difficult to pass if the information is sensitive (because in fragmented networks the relations are weaker)

Detecting and analysing/understanding the types of groups within the network

When analysing a social system (e.g an organization) we should understand which subgroups exist (formal and informal)

- Subgroups normally have a their own culture – values, norms orientations ect
- These can go against the culture of other subgroups, or the organisation as a whole creating conflicts

The largest Subgroups:components



- **Components** : are subgroups parts of the network in which there is a connection among all those who are part of them and no connection with the outside (other groups)
- **Class notes/informations** - 10 total:
 - 1 component with 23; One with 6; three with 3 ; One with 2 ; Four with one
- **Hanging out** –11 total:
 - One with 23 ; One with 11 ; One with 3 ; Three with 2; Five with 1

The most cohesive Sub-groups: *cliques*



- ***Clique*** : groups of people all interlinked (minimum size is 3)
- These are very cohesive groups that we can find within the components.
- Cliques make it very easy to coordinate work, but too many linkages can also have negative impacts, e.g. Waste of time
- Those in cliques have a tendency to :
 - Become closed to the outside and develop their own culture
 - to develop negative attitudes towards other groups

Organizations with many components and many cliques



- Makes coordination more difficult – there is not enough cooperation
- There is insufficient exchange of information, and there is a waste of resources (knowledge, information)
- potential conflicts

Probably the formal organisation should be adapted to fit the reality (e.g division into departments) depicted in the informal organisation (e.g components of knowledge sharing) to avoid dysfunctions

Cliques (cohesive subgroups)

Class notes/information – 5 cliques

- 1: NoemCarr MarieRup BlanRup SekEllie
- 2: BlanRup SekEllie LorenPalt
- 3: NoemCarr MarinLoic SekEllie
- 4: SekEllie GiadVill LorenPalt
- 5: SofPett SarWal MarkKre

Hanging out – 7 cliques

- 1: NoemCarr MarieRup BlanRup SekEllie
- 2: MarieRup BlanRup SekEllie LorenPalt
- 3: MarieRup SekEllie GiadVill LorenPalt
- 4: NoemCarr MarieRup ArelLuc
- 5: ShaVladLee MungLee AnnaWie
- 6: SofPett SarWal MarkKre
- 7: ValWig RekLnes JelRom

What underlies the formation of these cliques?

In Organisations we look for

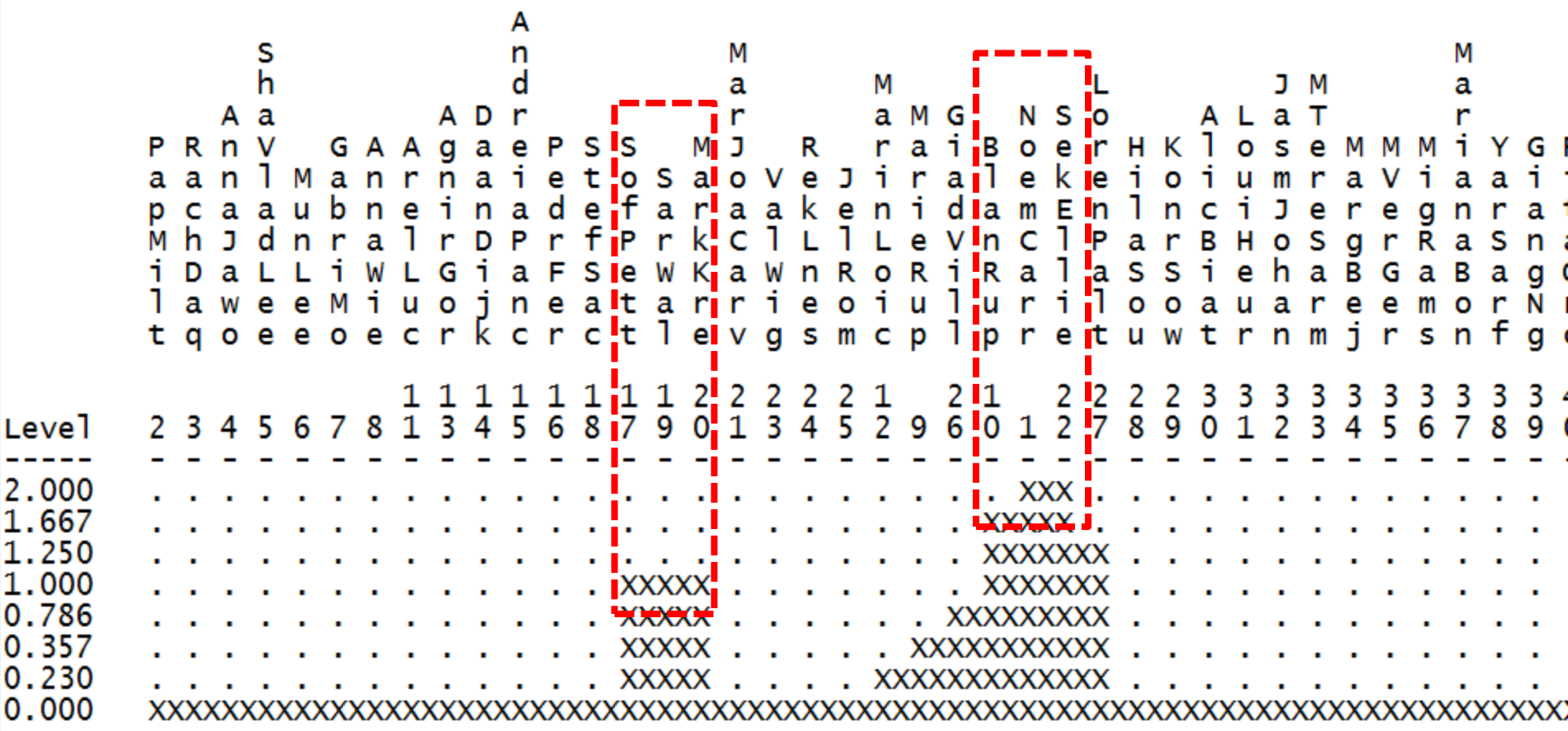
Characteristics of individuals – e.g. age, gender, time in the O'

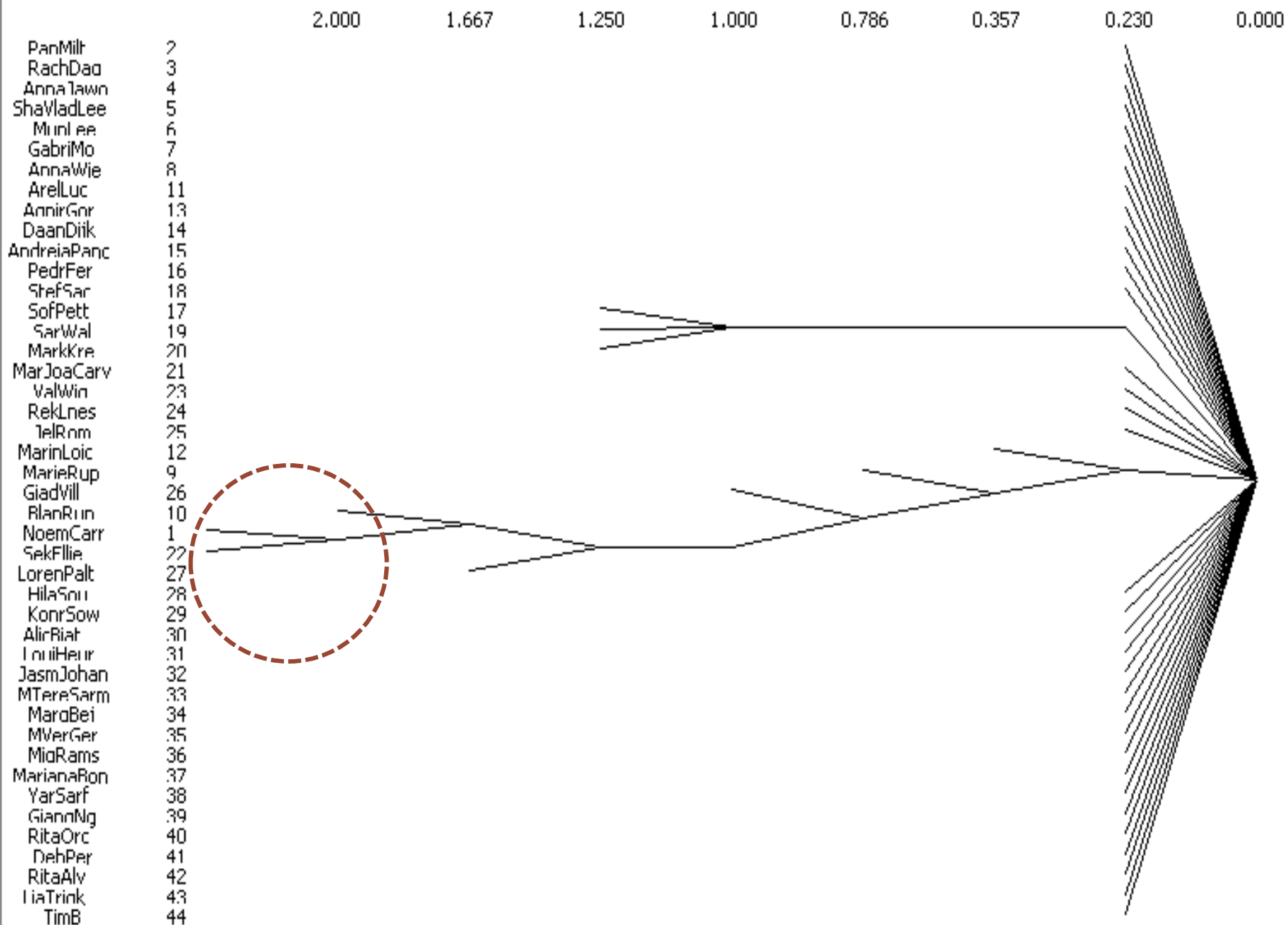
Characteristics of the O' – e.g. do they belong to the same department? Same specialisation? Same hierarchical level?

- **And here? Nationality? Roommates? Same time in Lisbon?**

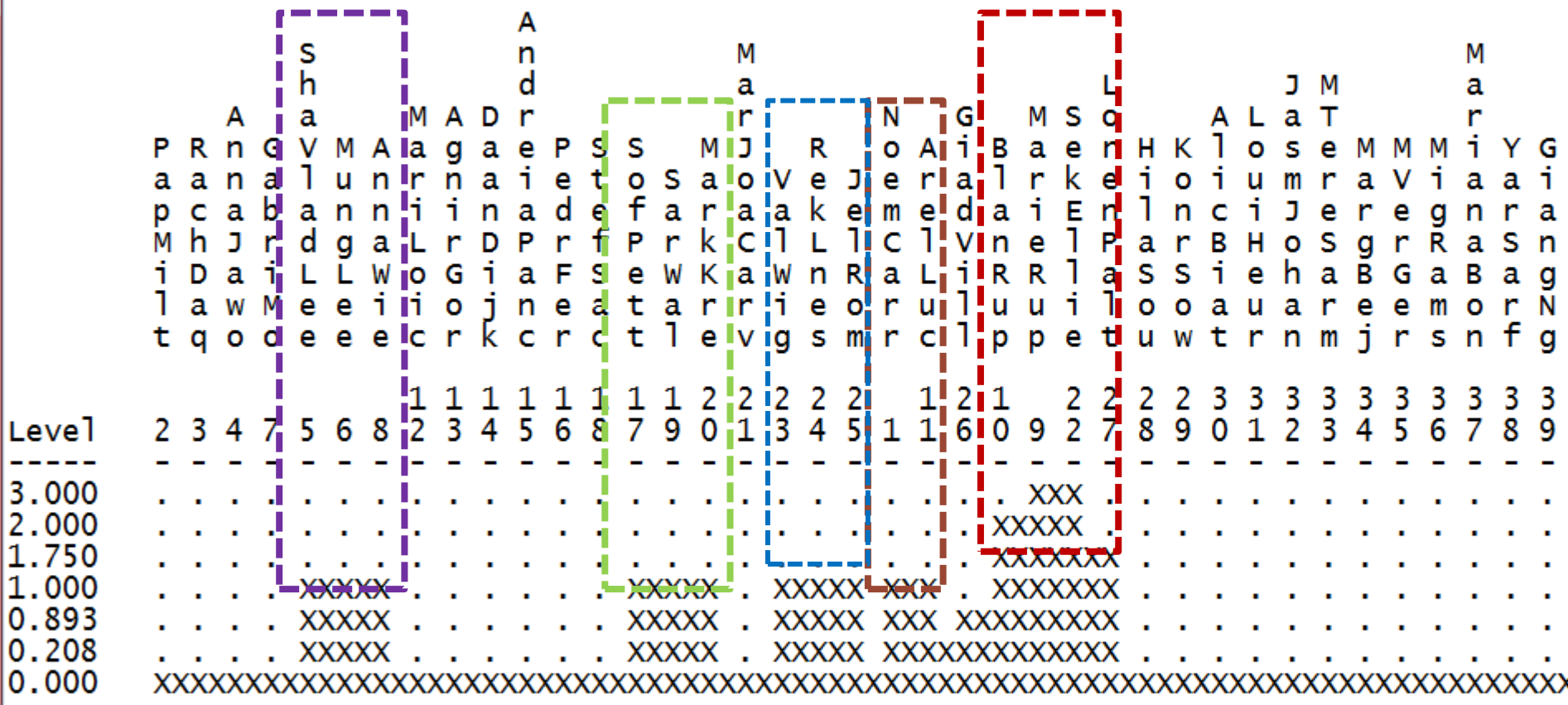
These are CLUSTERS which include the
 cliques (join each other in cliques more
 In those 5 cliques we can find 2 cluster?
 Why do they share class info? Same nat
 ...Do they also hang together?

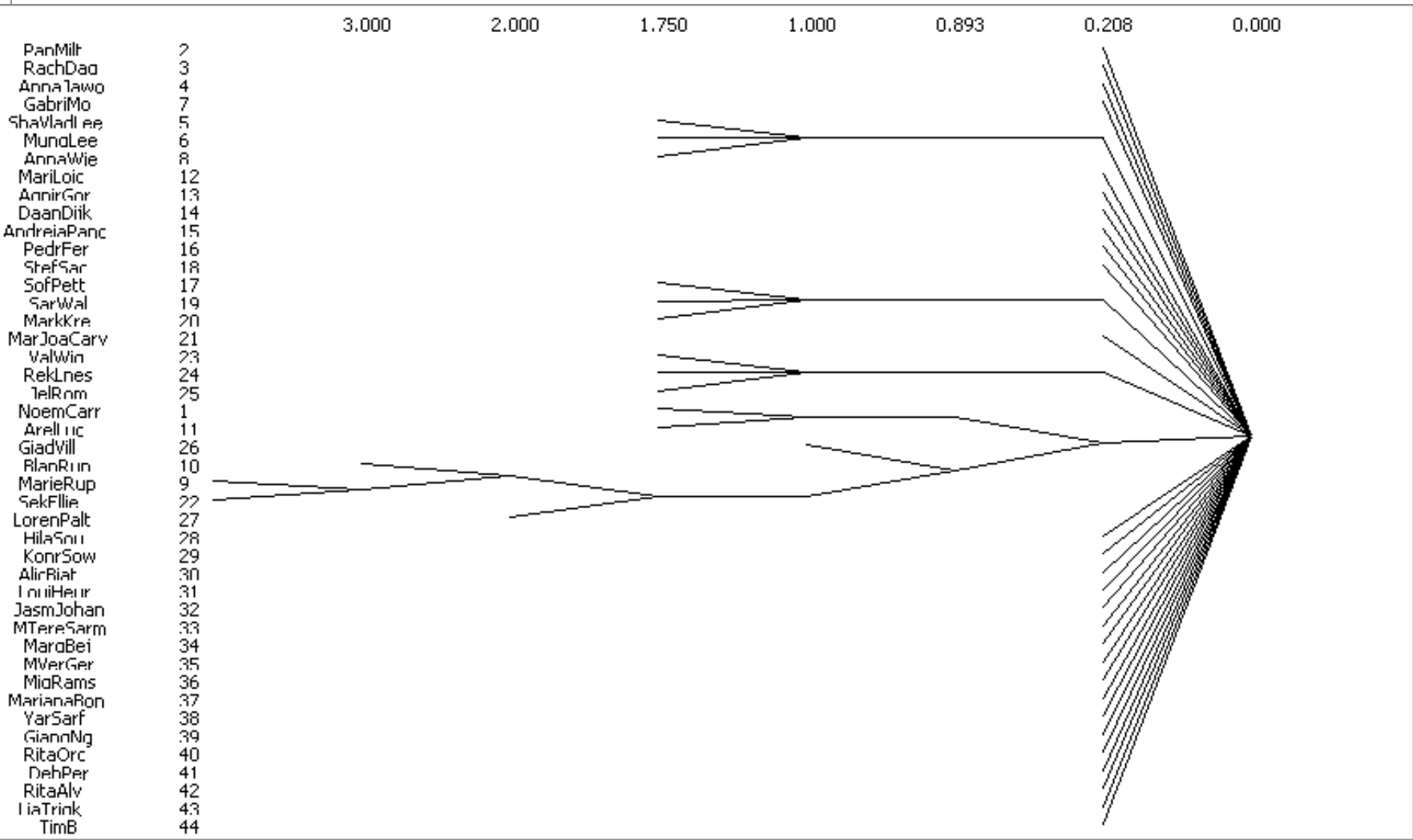
HIERARCHICAL CLUSTERING OF OVERLAP MATRIX





HIERARCHICAL CLUSTERING OF OVERLAP MATRIX





Summary



- To note when analysing a social system communication/interaction
- Professional communication is in general linked to the social/friendship communication
 - Together they improve communication making it more open , honest, easier to talk about sensitive matter, obtain quality info, ect
- Cohesion vs polarization of o's/groups
 - Capacity to reach objectives together in reasonable timing
 - Capacity to innovate
- Role of “leader”/proeminent individuals
 - Are they contributing positively to the group’s task?

Describe a conflict



- Describe a “professional” (work, school, association, church, sports, scouts, etc) related conflict:
- Who was involved and what was the relation among them?
- What was in the root of the conflict?
- What was at stake?
- How did you solve this conflict (if it was solved , if not why not)?
- Max one page– send by e-mail up to 19th April