Social Networks, Information Transmission, Creativity, and the Austin Improv Collective

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Social Networks in Relation to Today's Business Environment

According to Gartner (commonly accepted reputable market analysts), social network analysis (SNA) is the use of information and knowledge from many people and their personal networks. Generally, this type of analysis involves collecting data from multiple sources, analyzing the data to identify relationships and mining it for new information. Currently, Gartner claims that this type of analysis has many great benefits and penetrated only 5% of the potential market. Additionally, it can be used to identify target markets, create successful project teams, identify unvoiced conclusions, and can also be used to detect inexplicit connections. Lastly, Gartner expects this type of analysis to be actively used by the majority of its target audience within the next five years.



Overview of the Austin Improv Collective

This paper attempted to investigate the structure of the social network of the Austin Improv Collective (AIC) as well as characterize the flow of information through the network and is a follow-up to a previously written paper. This group of performers is organized around the following mission statement:

The mission of the Austin Improv Collective is to promote improvisational theatre in Central Texas and develop sustainable performance, practice, management, and teaching

skills for Austin's improvisational theatre community. We believe that improvisation is a vital and viable art form which provides unique and invaluable benefits to the individual and the community and we strive to raise awareness of improvisational theatre through performance, teaching, and community outreach.

While there are many ways to analyze this social group, the author chose to define the structure based on troupes, known Main stage shows such as Maestro, and known instructors/coaches were placed in a single group. In general, actors within this community perform regularly in troupes or special performance groups and are often in more than one group. Additionally, the regular standing Maestro show is an avenue for actors to perform who are not in troupes or whose troupes do not perform on a regular basis. The author chose to use questionnaire distributed to an expert panel but not to investigate online communities such as MySpace or Facebook, or known friendships. The author assumed that if an actor is in one troupe then that actor has a connection to the rest of the troupe. Therefore, an actor who is in several troupes will have several connections and play a more critical role in the social network. Additionally, all the actors who performed in Maestro from the beginning of August through January 15th were treated as a single troupe. Additionally, weights were applied to the various groups. Troupes that were known to be active within the July through February timeframe were given a weight of 3. For the 2007 through February 2008, all main stage shows, special performances, festivals, as well as the lumped group of known instructors/coaches were given a weight of 2. If the troupe performed infrequently, was a cage-match team during the previous cage match tournament, or chose to no longer perform during the time period of 08/07 - 02/08, the group was given a weight of 1. All known new troupes after 11/07 were given a weight of 2.

Using these assumptions, the social network composed of 92 distinct groups and 197 performers. This differs from the previous paper by the addition of 24 new groups and 24 new performers. The list of troupes and performers can be found in Appendix A.

Network Structure

An important aspect of social network analysis is the ability to diagram the social structure of the Austin Improv Collective. Each improviser was treated as a node and was tied to another node based on their common participation on the same troupe. For the rest of this paper, it is assumed if an improviser is in a particular troupe then that particular improviser will have a friendship tie. So, the following social network diagram provides a quick look on how the organization is structured. The Austin Improv Collective during the fall of 2007 has a structure of a "goldfish". However when the author applied the weighting and the addition of a few more troupes and performers, the structure evolved into a "blowfish". It is easily apparent to the casual observer that there is a central group but certain nodes have greater social capital than others and are key links in connecting the collective into a unified community. This diagram can be found in Appendix B.

Additionally, it is useful to know if the network structure has a central structure. Within the AIC, there is a relatively strong central structure (with a density of 0.055). Appendix

C contains a list of 20 core groups that according to the statistical analysis were the most critical.

Statistical Analysis

A focus of social network research is to investigate the absence of ties between individuals define both the structure of the network and the opportunity to build social capital. A definition of social capital is the benefits that accrue to the collective as a result of the maintenance of positive relations between different individuals, groups, organizational units, or hierarchical levels. Therefore, it is of great interest to find the nodes that act as liaisons between two otherwise disconnected nodes. The following analysis was done using the Ucinet software package.

Degree Centrality

One might perhaps think that the key influencers of a social network are the individuals that are the most popular. In this research, popularity was defined by the number of direct connections to other individuals. Therefore, this measure was used to identify the performers who were in the most number of troupes and having the greatest number of connections to the AIC. Using the data set presented in Appendix A and Ucinet, the author was able to identify the top 15 performers using this metric with and without the weighting applied. They are presented in the following tables identified by the performer and their number of direct ties.

KaceySamiee	153
AndyCrouch	125
JasonVines	121
MikeKinald	120
KareemBadr	119
WesBain	114
MattPollock	111
KaciBeeler	111
RoyJanik	109
SaraFarr	104
SeanHill	102
TomBooker	98
BryanRoberts	86
ChrisAllen	84
JeremyLamb	80

Table 1: Previously Top 15 improvisers using Degree Centrality

The average improviser in the network had approximately 31 direct connections with a standard deviation of 31 ties.

Table 2: Top 15 improvisers using Degree Centrality and applied weighting

KaceySamiee	705
AndyCrouch	587
KareemBadr	548
MattPollock	538
JasonVines	484

TomBooker	483
RoyJanik	470
TroyMiller	469
MikeKinald	463
BryanRoberts	432
KaciBeeler	410
SaraFarr	407
SeanHill	403
JeremyLamb	382
WesBain	345

Since there were 24 new groups added to the network analysis, the average number of direct connections grew to 125 with a standard deviation of 135 ties. Also, Troy Miller replaced Chris Allen in terms of statistical "popularity".

Betweenness Centrality

Another important metric used to investigate social structures is the betweenness centrality measure. This measure not only reflects the direct ties but also the extent to which a node is connected to other nodes that are not directly connected to each other and act as an intermediary, liaisons, or bridge within the network. Therefore, these individuals may be able to act as brokers and have an intermediate position on the shortest path connecting the AIC community. Using the data set presented in Appendix A and Ucinet, the author was able to identify the top 15 performers using this metric with and without the weighting applied. They are presented in the following tables identified by the performer and their normalized betweenness statistic.

revious top ie improvisers using between	less centrunty	
BryanRoberts	18.142	
AndyCrouch	7.689	
CodyDearing	7.591	
MikeFerstenfel	7.468	
StephanieCook	7.095	
JeremyLamb	6.410	
ValerieWard	6.168	
SeanHill	5.227	
JohnRatliff	5.024	
JasonVines	4.991	
KareemBadr	3.884	
AndreaYoung	2.950	
KaciBeeler	2.946	
KaceySamiee	2.933	
BryanCruz	2.771	

 Table 3: Previous top 15 improvisers using Betweenness Centrality

The average improviser in the network had approximately a normalized statistic of 0.768 with a standard deviation of 2.059.

|--|

BryanRoberts	14.697
CodyDearing	6.807

JeremyLamb	6.637
MikeFerstenfel	6.54
AndyCrouch	5.904
ValerieWard	5.248
JasonVines	3.388
JohnRatliff	3.309
SaraFarr	3.171
RoyJanik	3.067
SeanHill	2.903
JerichoThorpe	2.719
KerriAtwood	2.566
KareemBadr	2.469
EricHeiberg	2.203

The average improviser in the network had approximately a normalized statistic of 0.632 with a standard deviation of 1.546. The list changed to include 5 different individuals and the change is highlighted above.

Eigenvector Centrality

However, a node's importance in a social structure may not necessarily be reflected by their number of direct ties but rather their direct and indirect ties to popular nodes. Therefore, eigenvector centrality measures the relative importance of the node in a network. It uses relative scores to all nodes in the network and is based on the principle that connections to nodes having a high score contribute more to the score of the node in question. Using the data set presented in Appendix A and Ucinet, the author was able to identify the top 15 performers using this metric with and without the weighting applied. They are presented in the following tables identified by the performer and their normalized eigenvector statistic.

	eter etheraney
KaceySamiee	38.914
RoyJanik	35.729
KaciBeeler	33.541
KareemBadr	33.377
JasonVines	33.133
MikeKinald	32.249
AndyCrouch	31.968
WesBain	31.701
MattPollock	28.43
SaraFarr	28.338
TomBooker	24.092
SeanHill	22.671
ChrisAllen	21.63
TroyMiller	20.486
MarcMajcher	19.939

 Table 5: Previous top 15 improvisers using Eigenvector Centrality

The average improviser in the network had approximately a normalized statistic of 6.149 with a standard deviation of 9.053.

ing Eigenvector Central	ity and weight
KaceySamiee	41.906
AndyCrouch	36.079
KareemBadr	33.352
MattPollock	32.253
RoyJanik	29.284
JasonVines	29.28
MikeKinald	28.417
TroyMiller	27.552
TomBooker	26.991
KaciBeeler	26.046
SeanHill	24.375
SaraFarr	23.141
WesBain	21.494
MarcMajcher	19.573
<mark>JustinDavis</mark>	19.262

Table 6: Top 15 improvisers using Eigenvector Centrality and weighting

The average improviser in the network had approximately a normalized statistic of 5.542 with a standard deviation of 8.385. The list remained fairly similar with Justin Davis replacing Chris Allen in terms of being closer to the more statistically popular "performers".

Closeness Centrality

The last metric used to identify the key improvisers in the AIC social network is the closeness centrality measure. This metric defines the degree in which a node is near (directly or indirectly) to all other nodes in the network. This reflects the node's ability to say "I heard it through the grapevine" and their ability to reach everyone within the AIC network. Using the data set presented in Appendix A and Ucinet, the author was able to identify the top 15 performers using this metric with and without the weighting applied. They are presented in the following tables identified by the performer and their normalized Closeness statistic.

Table 7: Previous top 15 improvisers using Closeness Centrality

	~~ <u> </u>
JasonVines	61.481
AndyCrouch	61.481
KareemBadr	61.029
BryanRoberts	60.806
SeanHill	60.584
JeremyLamb	60.364
KaciBeeler	59.928
AndreaYoung	59.712
KaceySamiee	59.498
WesBain	58.865
MikeFerstenfel	58.865
RoyJanik	58.042
EricHeiberg	57.840
SaraFarr	57.639
CodyDearing	57.439

The average improviser in the network had approximately a normalized statistic of 45.579 with a standard deviation of 8.202.

x x7.	(1.270
Jason Vines	64.379
AndyCrouch	63.754
KareemBadr	62.54
KaciBeeler	62.342
JeremyLamb	62.145
RoyJanik	61.755
TroyMiller	61.371
MattPollock	61.18
SaraFarr	61.18
CodyDearing	60.991
NadineLatief	60.802
AndreaYoung	60.615
EricHeiberg	60.061
TomBooker	59.517
ChrisAllen	59.337

Table 8:	Top 15 improvise	ers using Closenes	s Centrality and	weighting
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The average improviser in the network had approximately a normalized statistic of 45.579 with a standard deviation of 8.202. With the additional 24 groups, the list of actors has changed which can be seen by the highlighted sections above.

Transmission Rate and the AIC Forum

Nearly all of the improvisers regularly post to a forum that is dedicated to the AIC. The forum is used to inform people within the community about special projects, casting calls (such as for the weekly Maestro show), and parties. From an outsider's perspective, the forum is the medium used by improvisers to transfer ideas (not necessarily all improve related) and discuss techniques. The different centrality metrics yielded a list of 27 improvisers who are listed in Table 9 with their overall number of postings.

 Table 9: New Consolidated List of Improvisers based on the 4 centrality metrics

inprovisers.	subcu on the ree
1	AndyCrouch
2	KareemBadr
3	JasonVines
4	RoyJanik
5	SaraFarr
6	MattPollock
7	TomBooker
8	KaciBeeler
9	SeanHill
10	JeremyLamb
11	TroyMiller
12	KaceySamiee
13	BryanRoberts
14	CodyDearing
11 12 13 14	TroyMiller KaceySamiee BryanRoberts CodyDearing

15	EricHeiberg
16	MikeKinald
17	WesBain
18	ValerieWard
19	JohnRatliff
20	JerichoThorpe
21	KerriAtwood
22	MarcMajcher
23	JustinDavis
24	NadineLatief
25	AndreaYoung
26	ChrisAllen
27	MikeFerstenfel

However, the top 15 improvisers who post the most actively on the AIC forum but did not make the top 15 list on any of the centrality metrics happened to be: Shannon McCormick, Julie Lucas, Justin York, Chris Trew, Asaf Ronen, and Mo Daviau. This list differs slightly from the previous study but shares the same gaps.

With the assistance from the AIC administrator, I was able to obtain the posting information with a breakdown by topic author, number of postings by improvisers, and by category for the time period of January 15, 2008 through April 01, 2008.

There are several interesting analyses that can be performed using this data but the author did not have time to complete. Among the analyses that can be performed is a regression analysis, on the postings to show the network structure and constraints. This would be compared to the results previously mentioned. This analysis will be performed at a later date. However, there are three tables that can be easily created from this data.

The following table lists the top 15 improvisers that start a topic discussion on the forum with the number of discussion topics they started.

isers that start rorum ropic Discussions		
Sara Farr	41	
Chris Trew	33	
Andy Crouch	24	
Arthur Simone	22	
Asaf Ronen	19	
Jeremy Lamb	18	
Roy Janik	18	
Shannon McCormick	16	
Jason Vines	14	
Terril Fisher	12	
Kareem Badr	11	
Shana Merlin	11	
Cody Dearing	11	
Kristin Firth	10	

 Table 10: Top 15 Improvisers that start Forum Topic Discussions

Lisa Jackson 9

However when looking how ideas are transferred through a network, it is also important to see who responds to the posts. The next table lists the top 15 improvisers by total number of posts on all the topics that were started over the 2.5 month timeframe previously mentioned.

that post to the I of all	
Jeff (The Brigadier)	171
Cody Dearing	148
Sara Farr	141
Jason Vines	137
Asaf Ronen	123
Andy Crouch	119
Chris Trew	118
Aden Kirschner	105
Arthur Simone	100
Justin Davis	92
Kareem Badr	91
Matt Pollock	86
Roy Janik	84
Chris Allen	80
Jessica Arjet	80

Table 11: Top 15 Improvisers that post to the Forum

Lastly, it is interesting to see which topics get the most number of responses. The following lists the top 15 topics with their number of posts, category, and forum.

 Table 12: Top 15 topics started on the forum from 1/15 to 4/1

		Upright Citizens Brigade and	
Announcements	Events	ColdTowne March 12-13	99
Show Management	Maestro	The struggle of casting	68
	General		
Off-Topic	Discussion	And the Oscar nominees are:	66
Announcements	The Corkboard	Name My Show	64
Announcements	Events	The President of Improv	63
Off-Topic	The Stump	I voted!	62
Announcements	The Corkboard	a list vote time	56
	Improv Theory		
Improvisation	& Practice	Taking the Unwanted	54
		I endorse Barack Obama for	
Off-Topic	The Stump	president	53
Announcements	Events	LAFF Staffing!	49
		Casting for Maestro, Early As	
Announcements	Casting	Usual!	48
		New Troupe Debut - Leap	
Announcements	Events	Year Evening	42
Austin Improv		An Important Announcement	
Collective	AIC Local	About The Hideout's Future	40

			Casting for Maestrotoo	
Announce	ments	Casting	early.	37
Announce	ments	Classes	Coming April 12th	35

Perhaps a bit unexpected from an outsider's perspective, the forum appears to be a mechanism that actually helps build a community around the AIC social network. Since the improvisers have the liberty to start a discussion on nearly any topic, a good portion of the topics are not necessarily related to enhancing improvisational techniques but do function to strengthen the ties within the community contributing to the strong central structure observed in the AIC social network. During this time period, 78 members started topic discussions were 130 members actively participated. Additionally, there were 432 topic discussions with 3348 posts.

By combining all the previous tables, we observe there are 38 individuals who are more likely to be influential within the AIC social network. There influence can vary from an initiator of ideas to rallying a good portion of the network to follow through on an initiative created by another improviser, or mentoring fellow members on furthering their craft.

Table 13:	Combined list of improvisers who are most likely to be influential within the AIC social
network	

1	AndyCrouch	
2	KareemBadr	
3	JasonVines	
4	RoyJanik	
5	SaraFarr	
6	MattPollock	
7	TomBooker	
8	KaciBeeler	
9	SeanHill	
10	JeremyLamb	
11	TroyMiller	
12	KaceySamiee	
13	BryanRoberts	
14	CodyDearing	
15	EricHeiberg	
16	MikeKinald	
17	WesBain	
18	ValerieWard	
19	JohnRatliff	
20	JerichoThorpe	
21	KerriAtwood	
22	MarcMajcher	
23	JustinDavis	
24	NadineLatief	
25	AndreaYoung	
26	ChrisAllen	
27	MikeFerstenfel	

28	Chris Trew
29	Arthur Simone
30	Asaf Ronen
	Shannon
31	McCormick
32	Aden Kirschner
33	Terril Fisher
34	Justin Davis
35	Shana Merlin
36	Jessica Arjet
37	Kristin Firth
38	Lisa Jackson

Expert Panel Survey

After receiving approval from the Human Subjects Committee of the University of Texas at Austin, a survey was distributed to a panel of experts of the AIC community. Twenty individuals were selected based on their known improv experience, length of membership in the community, placement within the network structure based on the centrality metrics. The survey attempted to understand how the AIC social structure facilitates the transfer of techniques and ideas across the community. The survey asked the following four questions to gather some indication of whether the different comedy troupes have exhibited performance improvement:

Now, we would like to know your thoughts of various troupes in the AIC:

Think back to August 2007 and try to assess how much **improvement** each troupe has shown up to today's date in terms of the following criteria:

- 1) Coordination between Players
- 2) Collaborative Storytelling
- 3) Creativity
- 4) Innovative Performance

The author expected at least a 50% participation rate but only 30% of the selected participants chose to participate. The feedback received by non-participants was that the survey was confusing and there was perhaps a language gap between the research team and the community. In particular, there appeared to be disagreement on the perceived definition of what the questions were asking of the participants. Despite the poor feedback, the experts were fairly consistent on which troupes showed the most *improvement* over the past academic year. These troupes are as follows and in no particular order:

Table 14.	Evnant Danal Sala	atad Traunas Dis	nlaving the most i	monomont
1 apre 14:	Expert rallel Sele	cieu rroubes Dis	Diaving the most i	mprovement

Girls Girls Girls
McNichol and May
The Frank Mills
Improv for Evil
Parrallogramophongraph
Available Cupholders
ColdTowne

GetUp
VertigoRamp
1813 Drake
Suspicious Package
Perfect Season
Flying Theater Machines Wang Dang Doodle Hour
Heroes of Comedy
Buddy Daddy

Table 14 yields a list of 55 performers who are active in the AIC community. Additionally of the troupes list above, the majority are well established and have been together as a group (some members may have changed but the group remained) for over a year. This implies that the members of these troupes are consistently working on gathering new techniques and trying new ideas to improve their performances. Therefore, the research team suspects that members from these troupes to be instrumental in generating new ideas/initiatives that are spread throughout the AIC network.

Observation

Since the idea behind this paper is to study how ideas are are transferred through a network, it is important to identify who are the members that can successfully generate new ideas that will be successfully transferred through the network. Table 15 was generated by taking the intersection of Tables 13 and 14 and identifies a list of AIC members who are most likely to generate new ideas that will be accepted by the community.

AndreaYoung
AndyCrouch
Arthur Simone
Asaf Ronen
Chris Trew
EricHeiberg
JasonVines
JeremyLamb
Jessica Arjet
JohnRatliff
KaceySamiee
KaciBeeler
KareemBadr
MarcMajcher
MattPollock
MikeKinald
RoyJanik
SaraFarr

Table 15: List of Improvisers who are most likely to generate new ideas that will successfully transfer through the network

SeanHill
Shana Merlin
Shannon
McCormick
ValerieWard

Using Gladwell's "Tipping Point" terminology, there are three types of people who are capable of spreading information across a network and are the connectors, mavens and salespeople. The connectors have an extraordinary knack of making friends and acquaintances, making social connections and can bridge different groups. The mavens are generally the instructors within a network and have the knowledge and social skills to start new ideas and initiatives. The salespeople are the charismatic individuals with powerful negotiation skills and easily make others agree with them. Based on personal observation and the previous mentioned analysis, the member most likely within the AIC to fill this role is Jason Vines. Additionally according to Malcolm Gladwell, the optimal group size is 150. Therefore, it will be interesting to watch if the AIC social network will split into multiple groups or if there are enough improvisers that are connectors who will continue to bridge the community and maintain its strong central structure and work towards promoting the AIC mission.

Conclusions

The Austin Improv Collective is a very dynamic social network. It does have a strong central core with several key active performers who link together this volunteer based social structure. The traditional analysis used in social network theory can be applied to the AIC. It was shown that the AIC has a strong central structure that evolves slowly over time. Additionally, the centrality metrics yield consistent results and identify a core group of 38 individuals who are influential within the network. The core group remains fairly constant but has changed slightly over time.

However, using centrality metrics solely based on group membership seem to miss certain key individuals who have a strong influence in the network. For example, Shannon McCormick is on of the producers for the annual Out Of Bounds Improv Comedy Festival. Mo and Chris both had key volunteer roles in this festival. Additionally, Justin York and Chris Trew are key members of ColdTowne. This troupe runs another venue for improv comedy. Additionally, this analysis fails to illustrate the key roles that the instructors/coaches have on the community.

Lastly, an expert panel was consulted to identify the troupes that displayed the most improvement over the past academic year. This yielded a candidate list of members who are most likely to succeed at generating new ideas that will transfer through the network.

Lastly, social network analysis is a technique that is becoming increasingly adopted by organizations to better understand their group dynamics and by marketing departments to better position their products.

Appendix A: The Groups and Improvisers

The information is listed by groups (troupes, cage match teams though 2/08, festivals, and an additional group from instructors and coaches) and then a second list displays the improvisers who were included in this analysis. The following data format was used because of its ease of importing into Ucinet. The software package used to run the statistical network analysis.

Table 16: The Groups GirlsGirlsGirls **McNicholandMay** TheFrankMills **ImprovforEvil** StarTreking PoliteSociety LookCookie Parrallogramophonograph HooversBlanket LeadingBrands **AvailableCupholders** ColdTowne GetUp Junk Starterkit **MidnightSociety** Gigglepants OneAM VertigoRamp TheKnuckelballNow 1813Drake SuspiciousPackage PerfectSeason Firth&Arjet \$10Bourbon **ISnoodBear** FlyingTheaterMachinesWangDangDoodleHour TheDarkBloodlords FrogtownHollowJubileeJugband LetsRock TheSmokingArm VinyIDestination YouMeandGreg Spawndoodalie HeroesofComedy ConspiracyButter WhirledNewsTonight

mrhappychocolatesunshine **ASipofChantico** CockSound YoureFat Threefield Kazillionaire BridgeportWomensCorrectionalFacilityImpromptuSkitPlayers TheGreatMundane CopsandLawyers SignifyingNothing SuiGeneris TheNewlybedGame Fartclownglasses RoyRoyRoy IAmATruck BlueBalls HarryPotter RoaldDahl PlaysWellShakespeare NoLeft Punch PuppetGun TheLateNightLunchShow HankandTony TheExtraordinaryLeague CostaCider Interrobang OneNightBand Ed32 Maestro Murphy PomPomSisterhood ImprovisedShakespeare ThePCompany TheGoldbergs BuddyDaddy AwShit StillbornCreek Snackers Mr.Bossman SockandSnail EgosTrip Chris&Kaci TheTrainees Barnstorm! SunnySideUp Skeeter&Sweaty Mr.Rather HallsofPower HardTimes

BackPackPicnic SeeHearSpeak OutofBounds WaffleFest Teach_coach – all known coaches and instructors

The following is the list of improvisers included in this analysis:

Table 17: The Improvisers AceManning AdenKirschner AlbertIm AlbertJin AlexBiasci AlexNavissi AlexNixon AlexisKanter AmyMcCurdy **AmyMcKenna** AndreaYoung AndrewLee AndyCrouch AndyPereira AndyPereria AndyPetruzzo AnnWilson AnthonyNorton ArthurSimone AsafRonen AsafRonen1 AudreySamsom AudreySansom BeckBennett BillGrandberg BillStern BobApthorpe **BobJones BobMcNichol** BradTemple BradleyJackson BrendanBigalow **BrentFoshee** BrianBoyko BrianPargac BryanCruz **BryanRoberts BurtMcCallister** CaitlinSweet ChadDuffy

ChrisAllen ChrisAlonzo ChrisKelley ChrisOrf ChrisTrew ChristieIngram ChristinadeRoos ClaireHuie CodyDearing CourtneySalinas CraigKotfas Curtis CurtisLuciani DanuUribe DaveBuckman DaveModigliani DaveWallace DavidBewley DavidLampe DavidObermann DavidToscano DavidZimmerman DougPena ElizabethLeader EllenChou EricGarcia EricHeiberg EricSeufert ErikAdams ErikaMay ErinMoleson ErinMolson ErinPlishke FrankWillmore GeneJoe GrahamSchmidt GregSpencer GuillermoDeLeon **JamesRoberts** JaminaKouhane JasonVines JavierSanchez JayBernardo JayMichael JeannieDeLeon JeffAmos JeffBritt JenCargill JenniferMicallef JeremyLamb

JerichoThorpe JerryBilbo JessicaArjet JessicaArjet. JillMorris JoannaCash JodieEgerton JoelKeith JohnRatliff JonBenner JordanMaxwell JoshKrilov JulieLucas JustinDavis JustinSpencer JustinYork KaceySamiee KaciBeeler KanYan KareemBadr KarremBadr KathyRoseCenter KatieThornton KendleWade KerriAtwood KerriLendo KoreySimeone KristinFirth **KyleMooney** KyleSweeney LanceGilstrap LauraSteffen LeahMoss LesMcGehee Lindsey LisaJackson MadelineMalka MaggieBurns MarcMajcher MargaretMyrick MargaretWardlaw MarkCarpenter MattPollock MatthewOdam MeghanWolff MichaelBird MichaelBrockman MichaelChampion **MichaelFerstenfeld** MichaelJoplin

MichaelWilliams MichealDomangue MikeDAlonzo **MikeFerstenfel** MikeJastroch MikeJoplin MikeKinald MikeMcGill MikeWilliams MitchBaker MoDaviau MoniqueMalanado NadineLatief NatMiller NickBrzezinski NickRameriz NickRutherford PeterRogers PhilAulie RachelMadorsky RachelPearson RainerSigwald RenePinnell **RichRoss** RichieLozano RobertArjet RobertFaires RoyJanik RyanHarrison SandraCuya SaraFarr SarahBayne SarahEshelman ScottChester SeanCooper SeanHill SeanOBrien ShanaMerlin ShannonMcCormick ShawnLeventhal ShellyMiller StephanieCook StephanieRusso StephenRobinson StevenShort TamiNelson TedRutherford TeresaKubos TerrilFisher ThaiLe

TimGirardeaux TomBooker TroyMiller ValerieWard WesBain WesReynolds WilliamOakley ZachPalmer



Appendix B: The AIC social network diagram

Appendix C: The List of the Core Groups in the AIC as Identified by the Ucinet Software package

Using the 2-Mode Categorical Core/Periphery Model option in Ucinet, it was determined that the AIC has a central core of groups in which their connections link across the entire AIC social network. These groups are as follows and not listed in a particular order:

Tuble 101	e en tet mulysis et most mildential groups
1	Maestro
2	StarTreking
3	WaffleFest
4	Teach_coach
5	OutofBounds
6	TheSmokingArm
7	ImprovisedShakespeare
8	GirlsGirlsGirls
9	EgosTrip
10	WhirledNewsTonight
11	Parrallogramophonograph
12	FlyingTheaterMachinesWangDangDoodleHour
13	ImprovforEvil
14	Junk
15	GetUp
16	ColdTowne
17	HooversBlanket
18	TheDarkBloodlords
19	SeeHearSpeak
20	VinyIDestination

 Table 18: UciNet Analysis of most influential groups