

## Chapter Four

### An Analysis of the *Africa* Category

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Be very careful before relying on anything said on the Thorn Tree. Exercise common sense, make your own inquiries and get expert advice (11 April 2004, "Lonely Planet Online", <http://www.lonelyplanet.com>).

#### 1. Introduction

In Chapter One the primary aim of this study is outlined, namely to investigate the structure of a computer-mediated social network found on the *Africa* category where actors share travel-related information. It is one of a number of categories to be found on the *Departure Lounge* on the *Thorn Tree*. This serves as an example of a real-world application of the many-to-many communication capabilities of the Internet, i.e. information exchange among people with an interest in travel for purposes of leisure. Also noted in Chapter One, based on the results of this investigation, two secondary aims are to describe the nature of the social ties and to comment on the impact actor position and network structure have on the flow of information through this particular network.

In Chapter Two, literature about the Internet and computer-mediated communication indicates that various avenues exist for communication to take place across the Internet. All these avenues, such as newsgroups and electronic bulletin boards are characterised by their many-to-many communication capabilities but more

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importantly by the fostering of social ties in cyberspace. While this, together with network analysis forms the backbone of the conceptual framework of this study, the *Thorn Tree* is taken as an example of an exchange network in which social ties are assets used primarily for the exchange of travel and travel-related information.

As such, the *Thorn Tree* can be placed against the broader background of an increase in travel for purposes of leisure and business in the twentieth century. However, it is also significant in terms of a world that is increasingly driven by information. For *Lonely Planet* the essence of having gone online in 1994 with the launch of their website is captured below:

*One of the most exciting things for us in the new media team is being part of a community of Lonely Planet on-line users. Some of the most popular areas of the site are Postcards, where you can swing on the traveller's grapevine, and the Thorn Tree, where travellers talk plans, pals and possibilities. We're always looking at ways to stoke the warm glow, so flood us with your feedback and your suggestions.*

(21 June 2001, "Lonely Planet Online", Available at:  
<http://www.lonelyplanet.com/faq/faq.htm>)

In Chapter One, reference is made of the various sources of travel and product information. In their study of functional and aesthetic information needs, Vogt, Fesenmaier and MacKay state that other studies have found that personal experience and information from family members and friends are the most popular information sources used in vacation decision-making (1993: 135). With reference to findings outlined in Chapter Two, this concurs with Stokowski's (1988) study about

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the influence connectivity in a network has on accessibility to sources of travel information and the subsequent influence on leisure choices.

By investigating the messages on the *Thorn Tree*, below follows a typical message that was posted on 17 May 2004 by a poster with the screen name 987654321 to illustrate the manner in which people use the Internet to facilitate information searches. This serves as an example of people who seek out groups to accomplish certain goals in this case, seeking information. Schaefer and Lamm point out, social networks “may empower people by making available vast resources (1998: 133-134) as exemplified by 987654321 whose message states the travel plans of a couple in their mid-fifties and outlines their particular needs with regard to a holiday in Mauritius. This poster is hopeful and probably trusts that others will adhere to this request for information. Clearly, this trust also extends to trust in the medium.

*We are a couple in our mid 50's and wish to go to Mauritius in February/March of 2005. We don't really like large sofisicated resorts (not into Spa, massages, eetc) but like to have a hotel (with a/con and private bath) on a beautiful beach where we can go snorkelling. Can anyone suggest a good hotel that would fit this bill but not too expensive or perhaps a package would be better - we are actually travelling from Spain but obviously would have to go via somehwere ie. France, London etc. Also which is the best part of the island for beach and snorekelling?*

*Any suggestions - I know that we are early thinking about this but I like to get things going so that we have something to look forward to - still hard workers and retirement a long way off!!*

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On 20 May 2004 at 00:41, *Xin\_Chao* replied with a long list of recommendations, which clearly shows this poster's willingness to share information. Considering a question raised in Chapter One regarding the nature of social ties, in this example *Xin\_Chao* extends an invitation for off-board contact using *Thorn Tree's* private message system similar to email. Is this characteristic of computer-mediated communication, namely people using the Internet to forge closer ties? Here one can only speculate about the possibilities of closer ties that might even culminate in face-to-face meetings, or so-called "piss-ups". Moreover, is the information less reliable since "faceless" individuals provide it? In a digital domain group dynamics are obviously different if compared to groups that function in traditional ways such as those found in the physical world, which leads to another question: Does the medium make the means of interaction and/or the message any less reliable?

*I would recommend flying Air Mauritius/Air France from CDG (France), the food is better than BA and it's closer to you so your flight time would be reduced.*

*As for the choice of hotels, that's a tricky one, Sometimes a package can work out cheaper, have a look at [www.partirpascher.com](http://www.partirpascher.com) if your French is anygood, you can get a good deal with them (the best prices I have ever found for here from Europe). An alternative would be to rent a Campement, a small self catering bungalow. If you need some more help or have any questions, or you would like some websites or telephone numbers of campements, send me a private message, I'll be glad to help out!*

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Although it is impossible to comment on the nature of social ties in a computer-mediated environment like the *Thorn Tree* based on one example such as the one outlined above, the messages above signify the Internet's ability for people to expand their social networks by seeking and sending electronic messages to other (unfamiliar) individuals using specific avenues such as electronic bulletin boards. With the *Thorn Tree*, *Lonely Planet* created a digital domain in which people from around the world can exchange travel information and interact. This clearly has implications for the social capital available to travellers. Against the background of increased globalisation and the role of the Internet in facilitating communication across national borders among people of different ages, genders and different backgrounds, this digital medium is clearly surpassing that which travel in the physical world can achieve; the Internet has changed the world into a so-called "global village". The question that arises if one considers the scale on which electronic communication can facilitate social interaction is: If it can create ties among people in different communities or even countries then is there a new interactive world known as "cyberspace"? (Schafer and Lamm, 1998: 613). The concepts cyberspace and virtual reality are explored in Chapter Two.

In the subsequent sections, an analysis of the social ties evident among actors who exchange information on the *Africa* category follows. As outlined in the research problem outlined in Chapter One, structure is used to reveal aspects of the nature of social ties in this exchange network. However, as outlined in Chapter Three, this study uses descriptive statistical measures too as a means to verify data shed some light on the dataset not possible by solely employing network analytical measures. The first section in this Chapter uses non-network statistical measures to reveal a number of aspects, i.e. number of replies per original post, survival analysis, duration of threads, replies versus views, ratio of replies versus views, and length of messages.

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The second section in this chapter focuses on network analytical measures. The first sub-section deals with measurements derived from a one-mode network for posters-repliers. In this sub-section reference is made to specific actors. The second sub-section deals with measurements derived from a two-mode network where one mode consists of actors (members) and the second mode of messages, thereby creating an affiliation network, i.e. actors affiliated to messages. Resultantly, messages related to those actors selected for reasons outlined in the relevant sub-section are included for content analysis.

Tables and other supporting information are included in the Annexure. Graphs and other graphical presentations are, however, included in the text to increase readability. At the back of the thesis a CD-Rom is included, which contains the messages and other supporting information in electronic format. Lastly, in those instances where messages are quoted, it is done without alterations.

## **2. A descriptive analysis**

### **2.1 Number of replies**

In Chapter Three it is stated that threads differ markedly in the number of messages they contain. Similarly, the electronic bulletin board is characterised by differential contributions from actors. With reference to the methods used in this study (Chapter Three), Figure 5 indicates the number of replies per thread. For example, 165 threads received no replies, 176 threads received 1 reply, 170 threads received 2 replies, 150 received 3 replies, 94 received 4 replies, and so forth. Only one thread had 43 replies, which represents the highest number of replies in this dataset. Twenty to 21, 23 to 29, and 31 to 42 threads had no replies at all.

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The graphical representation of these responses is shown in Figure 5 below.

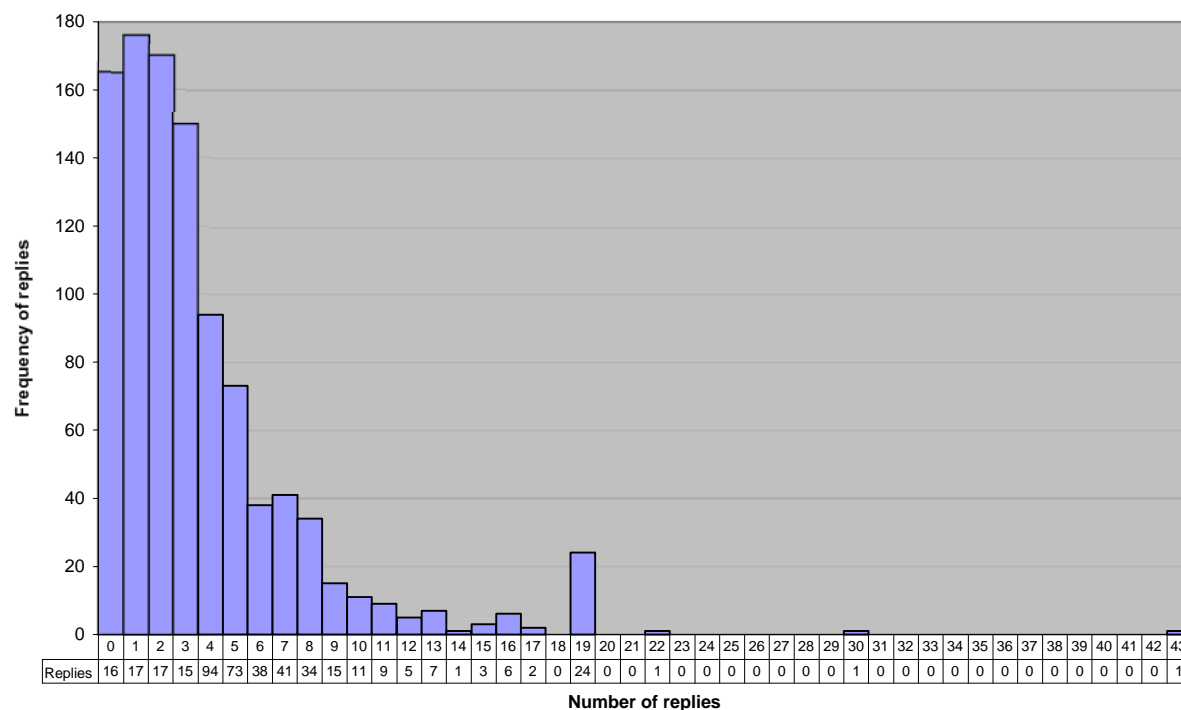


Figure 5 Frequency of replies per thread

As can be determined the median response is 3, the average response is 3.63 and the mode response is 1. For an asymmetrical distribution the median is the best measure of centrality. However, two points are noteworthy: First, a mode of 1 and second, an unexpected peak at 19 (24 threads received 19 replies). Of the 1 027 threads in this dataset, 165 received no reply, as outlined in Table 4. As explained in Chapter Three, the ratio of replies to the total number of threads is 0.161. This implies that approximately 16% of threads remain unanswered or that approximately one message in six does not receive a reply. With reference to structure, as outlined in sub-section “3.1.2 No replies and unconnected actors”, those actors who initiated threads with no replies are listed. Unconnected actors in network terms are isolates.

Using descriptive statistical analysis, if one considers the threads and the number of replies the overall shape of the frequency distribution suggests that most messages receive few replies and few messages receive many replies. This is an important point since it characterises exchanges and interaction on the *Thorn Tree*. The shape and centrality of the frequency distribution appear to indicate that short threads are the norm on the *Africa* category. This means that discussions are not long and drawn out. Later, this point is raised again where the survival analysis of threads is discussed.

In a sub-section below, the thread with the most replies, namely 43, is analysed. By using results from the two-mode network, it became apparent that the message thread with 22 replies has the same poster, namely *NgaDef*. The following post is *NgaDef*'s first post on the *Thorn Tree*. It was posted on 26 April 2004 at 04:49 with the subject "African taxis: love them or loathe them?"

*What's your favourite African taxi story? What was terrible at the time?  
But makes you look back with a smile now?  
I was in the back of this taxi in Accra once &.....)  
thanks to UsvaAver*

*NgaDef*'s second thread drew the highest number of replies in this dataset, namely 43. It was posted on 6 June 2004 at 2:11 with the subject "More accolades [sic] Africa Branch!"

*My second ever LP TT Thread of the day!! African taxi stories I feel so  
humble :)*

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The 24 threads with nineteen replies, representing an unexpected peak, are listed in Table 3. This list uses the subject lines of each of the 24 threads, which is indicative of the content of those threads that drew a considerable amount of replies. By considering the topics under discussion in each of these threads, it is possible to determine the nature of information exchanges since it signifies the type of topics in which people are interested. The varied nature of discussions is clear but there is no apparent reason why these particular threads all received nineteen replies. It is also unimportant to try and find a possible reason since it is merely a statistical fact.

## 2.2 Duration of threads

In Chapter Three, one of the premises states that the lifespan of threads is indicative of the duration of electronic conversations and the duration of interaction among actors, which characterises social interaction on the *Thorn Tree*. In order to determine the duration of a thread, survival and failure analysis techniques were performed on the data. With reference to Table 5, the survival percentiles using the Kaplan-Meier Product-Limit are outlined in Figure 6.

The results estimate that 25% of all threads terminate within 2¼ hours, 50% of all threads terminate within 20½ hours and 75% of all threads terminate within 56½ hours. These results, combined with the frequency of replies seem to indicate that the *Africa* category is clinical in its overall approach: queries are submitted and replies are promptly offered. There also appears to be very few prolonged discussions. This observation corresponds with the fact that few members know each other and that few members are frequently active on the *Africa* category.

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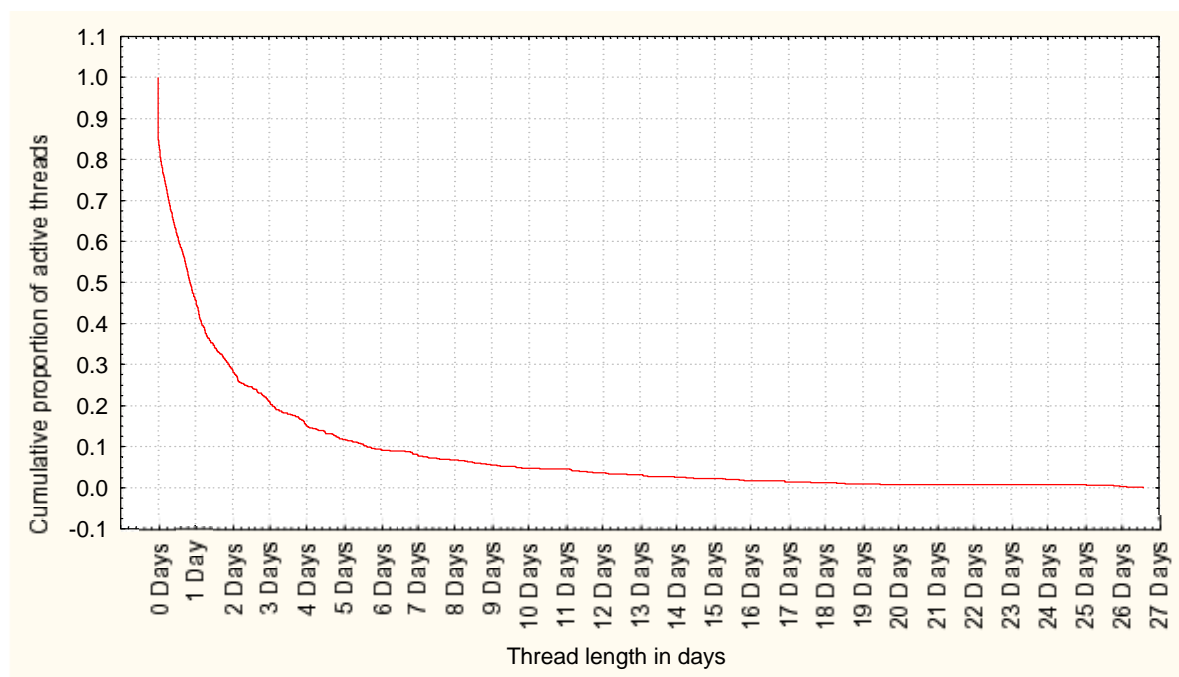


Figure 6 Survival function of thread duration

Figure 6 outlines the graph of the survival function with respect to thread duration. The steep slope at the very start of the plot reflects the 16% of threads that terminate without receiving any replies. In addition, 50% of the threads terminate within one day. This is the survival time at which the cumulative survival function is equal to 0.5. Note that the 50<sup>th</sup> percentile (median) for the cumulative survival function is usually not the same as the point in time up to which 50% of the sample survived. This would only be the case if there were no censored observations before this time.

Another method of describing the reliability of the length of the threads is with the hazard function as outlined in Figure 7. The hazard function is described in more detail in Chapter Three. The plot indicates that the probability of any thread terminating during any particular interval is relatively constant (below approximately

0.0002) after the second day. At the start of the plot the probability of a thread terminating is high but then decreases for subsequent intervals. This relates to the number of threads that received no replies. At approximately 25 days the probability of a surviving thread terminating again rises, this time dramatically. This corresponds with the nature of discussions which is reiterated by the fact that this network is sparse and that few extensive discussions take place on the *Africa* category of the *Thorn Tree*. This does not exclude the possibility that conversations are conducted via email or other means.

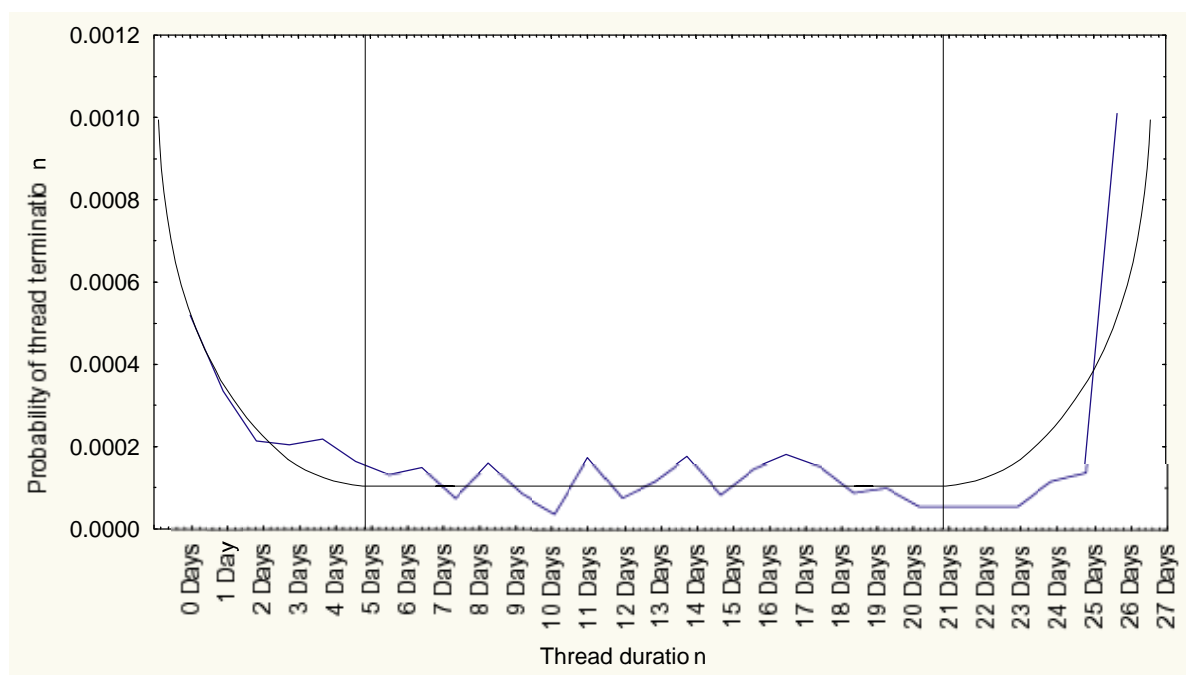


Figure 7 Least squares estimates of Hazard Function

Regarding the hazard function, the analogy holds in the case of the *Africa* category as well. In the case of the *Africa* category, it was shown that about 16% of threads receive no replies; the CD-Rom contains a list of these messages. With reference to

Figure 7, where the so-called bath-tub curve is superimposed over the data for the duration of threads of time, the hazard function illustrates the survival rate of threads more clearly.

### 2.3 Replies versus views

In Chapter Three, one of the premises is that there is a correlation between the number of views and the number of replies. A scatterplot of the number of replies versus the number of views for a thread is shown in Figure 8.

By considering the number of views and calculating the correlation between views and number of replies it is found that the more times a thread is viewed, the more replies it receives. However, the correlation is not strong.  $R^2$  indicates that about half (53%) of the variation of the replies is accounted for by a linear relationship of the number of views a thread receives. This means that there are other factors besides the number of views that prompt a reply, e.g. actors and/or topics.

The graph shows horizontal lines of data that are especially noticeable at the lower values. This is to be expected because all values are whole numbers. In fact, the compression of the x-axis causes the vertical lines to disappear from the graph as each point blends in with its neighbouring points. The graph was constructed from the values recorded by *Lonely Planet* as the replies and views.

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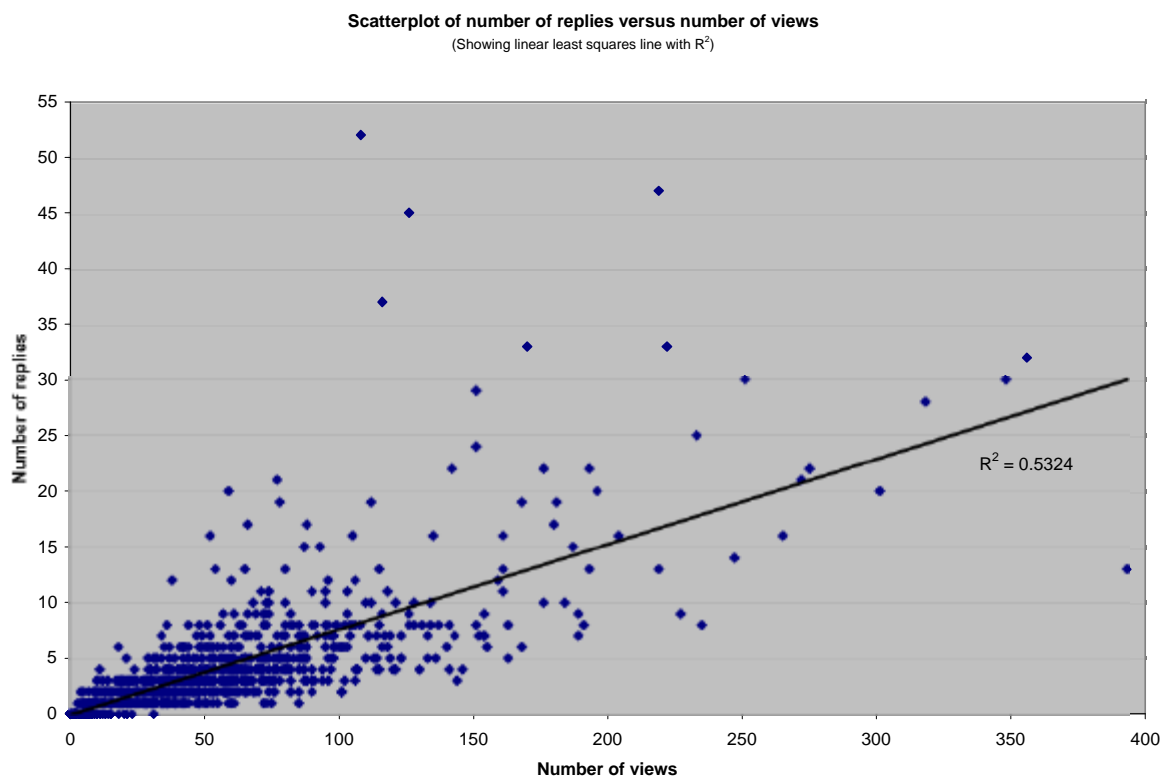


Figure 8 A Scatter-plot: number of replies vs number of views

## 2.4 Ratio of replies to views

The proportion of replies to the number of views is very low. The most common occurrence appears to be that one in twenty views receives a reply (0.05 is the average of 0.0 and 0.1 in the histogram). This result corresponds well with other summaries provided thus far in the sub-sections above.

Refer to Figure 9 which is a histogram outlining the ratio of replies to views in percentages. From this it is clear that 12.4% of the posted messages receive no replies despite having been viewed. This corresponds to approximately one in eight messages that does not receive a response despite having been viewed. In the

above sub-section it was determined that approximately one in six messages receives no replies. The difference between these two findings indicates the number of messages that receive no replies and are not viewed by the members of the branch either.

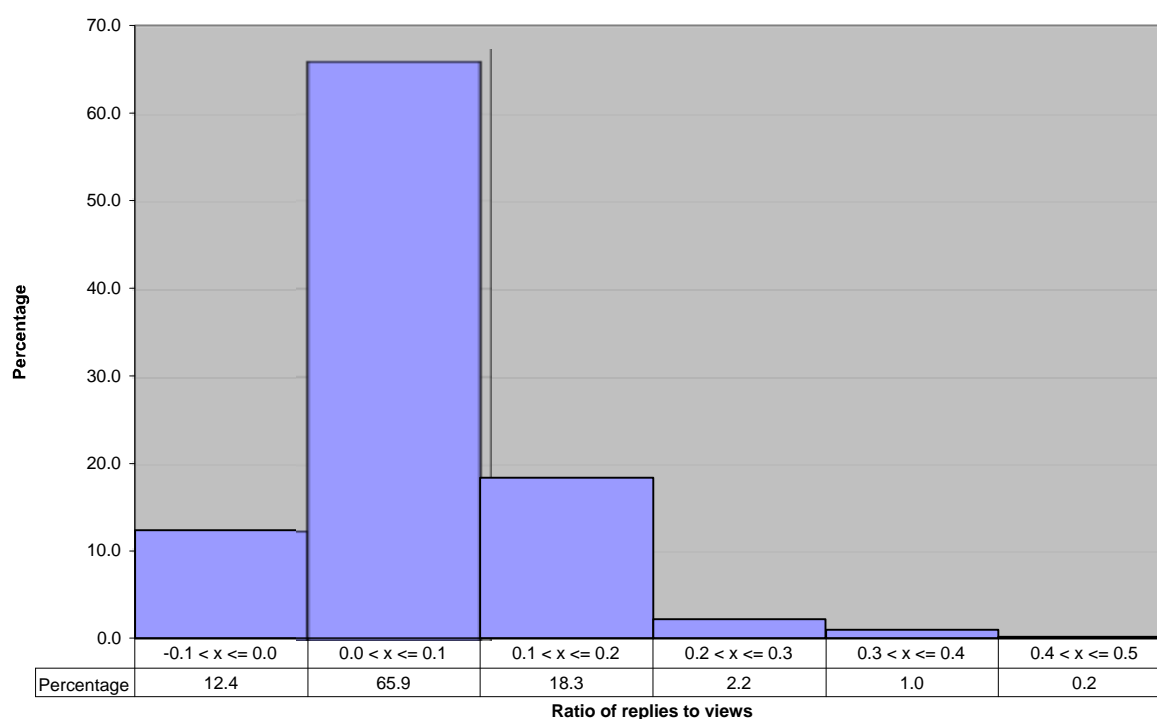


Figure 9 Histogram of the ratio of replies to views (%)

## 2.5 Message length

In Chapter Three, the premise is stated that the average length of messages on the *Africa* category characterises electronic contributions in this computer-mediated domain. Does it mirror or at least resemble interactions between travellers in the physical world? In Table 6 the length of messages in characters is outlined. All

fractional numbers have been rounded to the nearest whole number. Excluding the 13 messages that have 4000 or more characters, the histogram of the distribution of the remaining message is shown in Figure 10.

From this can be deduced that messages are generally short and to the point. It is notable that the *Thorn Tree* discussion board, like others found on the Internet, does not allow embedded objects such as graphics. One of the shortest messages consists of a so-called emotiocon, in this case a so-called “smiley face” consisting of the punctuation marks “;-)” posted by *kingdoomy* on 6 May 2004 at 08:07 with the subject “More accolades [sic] African Branch”. *Pizza\_Wheel* posted “no” on 27 May 2004 at 00:54 as a reply in a thread with the title “Nigeria”.

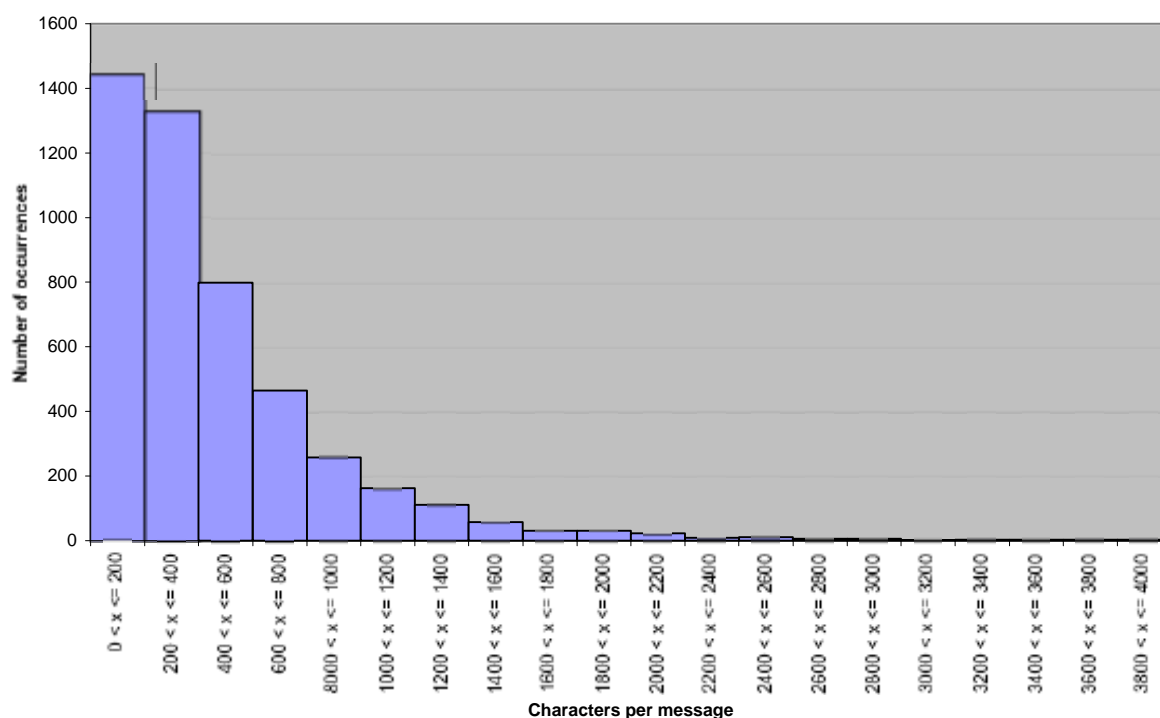


Figure 10 Histogram of message length (characters)

The length of the messages, being generally short concurs well with other findings based on descriptive analysis and network analysis respectively, i.e. the short survival rate of threads and the replies to views ratio. These three findings subsequently assist in characterising the nature of this online discussion board as discussed in Chapter Five.

However, in the absence of conclusive evidence about the length of discussions among travellers in the physical world, the extent to which interactions on this electronic discussion forum mirrors interactions among travellers in the physical world cannot be determined.

## **2.6 Summary of the descriptive analysis**

The following observations have been made concerning the descriptive analysis of the data:

- The uncertainty of the data is approximately 6% and consists mainly of messages that were missed during the downloading procedure. However, the amount of data is sufficient to allow relative calculation (ratios) to be performed and their values used as estimates. Therefore, this uncertainty has little or no effect on the analysis.
  - The number and frequency distribution of replies appears typical of that expected by message boards, bulletin boards and web servers. In addition, the median and mode of the replies indicates that the members of this branch of the online community are interested in obtaining and providing information to queries as very few messages receive numerous replies.
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- The distribution of the time of messages, both threads and replies, occur during a typical cycle observed by most message boards, bulletin boards and web servers.
  - The duration of threads supports and corroborates the finding that the members of this branch of the online community are interested in obtaining and providing information because 50% of all threads terminate in less than one day with 75% terminating in just over 2 days. The threads were also determined to have about the same probability of terminating between approximately 5 and 21 days. Threads outside this interval have a higher probability of terminating.
  - When comparing replies against views it is tempting to state that the more views a thread gets, the more likely that thread is to receive replies. Although this is true, it is also true that only about half (53%) of the reasons for replying may be attributed to viewing alone. Factors other than viewing a message contribute toward replies. This point is again taken up in a subsequent sub-section.
  - The proportion of replies received to the number of views of a message is very low. Only 12.4% of the posted messages receive no replies despite having been viewed. This corresponds to approximately one in eight messages that does not receive a response despite having been viewed. In the sub-section above it was determined that approximately one in six messages receive no replies. The difference seen between these two findings indicates that the number of messages that receive no replies are not viewed by the members of the branch. It appears that the members are either not attracted to the contents of the thread or do not want to read a thread initiated by a specific actor. This has implications for the flow of information through this network and social capital, since some actors might withhold information or even start a so-called flame or online attack. It certainly influences the levels of connectivity of actors based on their affiliation to threads.
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### **3. A network perspective on the Africa category**

#### **3.1 One-mode analysis of poster-replier**

The values used in the one-mode analysis of the data are outlined in Table 7. It is worth repeating here, since it is constantly referred to. First, there are 1 282 actors, 630 posters, 2 782 threads and 761 repliers. No participation is calculated as 72. This number is obtained by considering the differences between the total number of actors (1 282) and the number of posters or repliers. This is indicative of the number of actors who did not initiate or reply to a thread. Approximately 50% of all actors initiated at least one thread, 60% of all actors replied to at least one thread but only 5.6% neither posted nor replied to any message. The actors that are not accounted for may be part of the same group that were reported as uncertain and subsequently removed from the study or they may be viewers only or a combination of the two. The significance of this is that more people who can actually be counted and taken into account for this network analysis benefit from the exchanges of travel information on the *Thorn Tree*, but since they do not post any messages, they are excluded from the dataset. This is supported by the information displayed alongside each message on *Lonely Planet's* website that states the number of views.

##### **3.1.1 Univariate statistics**

The univariate statistics produced by *UCINET* and *eVal* for this dataset are displayed in Table 7 in the Annexure. The values used for calculations shown in this paragraph are taken from *eVal*. The mean, often referred to as group density, is 0.0017 and may be more accurately calculated by dividing the "Sum" by the "Observations". The sum represents the total number of connections between actors while the observations indicate the size of the network excluding self-ties. If each

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actor communicated with all other actors, the sum would be 1 642 242. However, in this dataset only 2 728 communication ties (threads) exist.

The standard deviation measures the amount of variation that exists between the elements. In this case the standard deviation is much larger than the mean indicating that there is a great deal of difference between the actors. The coefficient of variation (standard deviation divided by the mean) is 24.2. The mean, standard deviation and coefficient of variation indicate that the actors have very weak ties. The Euclidean norm is a measure of the extent of the observations and is the square root of the number of observations in this example.

The data used for the one-mode analysis is asymmetrical indicating a distinction between poster and replier. The density (mean) of each row and column indicates the manner in which each actor is embedded in the overall density. Refer to Table 9 (embeddedness of posters) and Table 10 (embeddedness of repliers) respectively in which the overall embeddedness of posters and repliers are outlined. The maximum number of possible ties is 1 281 ( $n-1$ ) because self-ties are not computed. Therefore, the mean may be calculated with more accuracy, if required, by dividing the Sum by 1 281.

The top 25 posters account for approximately 19% of the total threads (postings), 4% of all posters and 2% of all actors. The coefficient of variation for each of the 25 posters ranges from 4.3 (*JayDawg*) to 9.9 (*kamon*) indicating weak ties to the rest of the actors. In the case of repliers, the top 25 repliers account for approximately 27% of the total threads (postings), 3% of all repliers and 2% of all actors. The coefficient of variation for each of the 25 posters ranges from 3.9 (*dysfunctional*) to 8.6 (*londonviking*) indicating weak ties to the rest of the actors. Note that only three actors (*Dayo*, *NgaDef* and *Pizza\_Wheel*) appear in the top 25 posters and repliers.

With the exception of these three actors, actors are predominantly posters or repliers and not both.

Findings of this sub-section support the results outlined in the preceding sub-section: actors do not maintain regular or prolonged communication channels with one another which helps to explain the size of their neighbourhoods too. It is necessary to refer to Table 11 and Table 12 respectively.

### **3.1.2 No replies and unconnected actors**

With reference to findings in the first section at the start of this chapter, 16% of threads did not receive any replies (Table 4). With reference to the CD-Rom inserted at the back of this thesis, by investigating these threads and comparing them to other threads in this dataset that did receive answers, it is largely unclear why certain messages draw no replies despite their obvious legitimacy, i.e. travel-related questions or remarks. Below is an example of an unanswered thread that can be considered a legitimate request for travel information. On 6 May 2004 at 00:41 *sheltered* posted a message with the subject “accommodation in Conakry”.

*I will be arriving by plane into Conakry in about a week's time. Does anyone have any recommendations for places to stay? I will need to catch a bush taxi to Freetown the next morning, so the place will have to be fairly central/close to the station. And, does anyone know what time the bush taxis set out in the morning?*

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This message does not differ much from another thread that also received no reply. On 22 May 2004 at 12:54 *Zacher* posted a message with the subject “Addis Ababa: Hotel”.

*Hallo ! Can somebody recommend a good (three star ?) hotel in Addis Ababa. I want to spend around 25 - 40 USD for a single. Location unimportant. Thanks*

If one considers the actor as an influential factor to explain why certain messages receive no replies, then the conversation between *sheltered* and *supercede* is worth considering. On 3 June 2004 *supercede* posted a message at 18:23 with the title “The lowdown on traveling to West Africa!!! Help needed”.

*Hey everyone,*

*Just like to thank those who have helped me plan trips in the past (Kenya, Tanzania, Zanzibar), now I am headed to West Africa. Now I need some Visa information for countries in West Africa.*

*I bought a ticket to Accra, Ghana for late October. I bought a one-way ticket and hope to travel up the coast going through Burkina Faso, Mali, Senegal, Mauritania, Morocco and then probably fly home from Spain/Portugal...I heard the Mauritanian Visa can be a real pain if going Senegal-Mauritania as opposed to going Morocco- Mauritania? ...I guess I have time for these countries. I really want to see Tombouctou [Mali] and parts of the Sahara in Mauritania and Morocco, everything else is bonus.. I am a male from Boston, Massachusetts area with an American passport if that is pertinent information. I've*

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*been to Africa twice and obtain useful information from this site.*

*Thanks again...*

*Adam*

On the next day at 12:52 *sheltered* replied as follows:

*I've just come back from Sierra Leone, and I transited through Guinea, so I can give you a little info, for what it's worth. And by the way, whilst I was in SL, listening to the BBC World Service's Africa programming, it sounded like Cote D'Ivoire was a tinderbox just about to go up.*

*Anyway, I was in Conakry for a couple of days, and then went overland to Sierra Leone, and then back again a couple of weeks later by regional flight courtesy of West Coast Airlines. If you do decide to stay in Conakry, then do go to the Mission Catholique, near the Marche du Niger. The cheap rooms aren't often available, and you may have to take a double room for 45 000 GF (about \$20) per night, but it is worth every last cent, as it is an oasis of friendliness and care in what is after all a pretty dodgy city...Also, I had things stolen from my baggage -- after it had been checked in at the official Air France check-in counter.*

The above message is *sheltered's* only other message in this dataset. It clearly references Conakry, the destination to which *sheltered* travelled and requested information in a message posted on 6 May 2004 at 00:41 but received none despite being viewed five times. It is possible that *sheltered* got private emails sent to a *Lonely Planet* email box although this cannot be verified. What is noteworthy,

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however, is *sheltered*'s willingness to share travel experiences with *supercede* after the trip to Conakry.

With reference to the CD-Rom inserted at the back of this thesis, all the threads that received no replies are available for scrutiny. What transpires from this information is the absence of any apparent reasons for threads not receiving any replies. In some cases, like *Kim1055*, all three threads received no replies. This actor also did not participate in any other threads either. An aspect that needs to be taken into account is that threads that were started close to the end of the period covered by the dataset exclude messages that might have followed thereafter.

The highest number of messages by the same actor that received no replies is five; the two actors are: *griesi* and *ponsore*. *Griesi* requested information about South Africa and Namibia, while *ponsore* requested information about Lusaka. While *griesi*'s messages varied, *ponsore* clearly tried in vain to get answers from other *Thorn Tree* members despite repeating the same request with slight variations. Two messages are in fact the same, namely the one posted on 22 May 2004 at 8:28 and the one posted on 26 May 2004 at 12:59. They both read as follows:

*hello everybody*

*do you know if it is possible for Italians to get a visa on arrival at  
Lusaka airport?*

*thanks*

On 1 June 2004 at 14:16 *ponsore* made a last attempt to get information from other *Thorn Tree* members by changing the subject to "zambia". This time, the actor also

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included a name. Yet, this message too failed to draw any responses from fellow *Thorn Tree* members.

*hi everybody! Who can suggest a clean cheap place to stay - and gather information to travel around - in Lusaka*

A number of possibilities arise why *ponsore* did not receive any replies. First, it is possible that few *Thorn Tree* members know Lusaka well and perhaps do not have extensive knowledge about cheap hotels there. Second, some actors might have answers to requests, but do not share this information. It would be incorrect to claim that an unwillingness to share is the obvious reason in this particular case. The case of *sheltered* and *supercede* above suggests the contrary. Thirdly, however, not being connected to the Internet and accessing the *Thorn Tree* irregularly need to be considered as contributing factors why legitimate travel requests do not receive answers or why actors who contribute answers to some messages do not do the same with others. In a digital domain such as this, together with the fact that this is a large network, a lot of information is available which means that actors might overlook some messages.

If however, *ponsore's* request for information about travelling to Lusaka is juxtaposed with *NgaDef's* second thread that drew 43 replies, the nature of exchanges becomes clearer. *NgaDef's* thread was posted on 6 June 2004 at 2:11 with the subject "More accolades [sic] Africa Branch!":

*My second ever LP TT Thread of the day!! African taxi stories I feel so humble :)*

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Without contextualising this thread against *NgaDef's* other contributions and the on-going conversation between this actor and others, the high number of replies would be inexplicable. *NgaDef's* contributions to the *Africa* category differ from those of *ponsore* or any of the other actors that did not receive replies to their threads. It was stated earlier in this sub-section that the actor alone cannot explain why threads do not receive replies. While some actors are clearly more active than others, it is rather the context of all their contributions over time that explains why a simple message like that of *NgaDef* drew 43 replies while obviously not very relevant to other travellers. In many respects, the nature of interactions and exchanges on the *Thorn Tree* are similar to what happens in the physical world. In a face-to-face situation such as a bar in a backpacker's lodge where some will talk and others listen, not all questions are answered; clearly, not all verbal iterations are reciprocated.

### 3.1.3 Reciprocity, transitivity and centrality

While the previous sub-section outlined the threads that received no replies and used network analytical measurements to gain more insight into the actors who are responsible for these threads, this section considers aspects that are indicative of connectedness. As outlined in Chapter Three, reciprocity in social network analytical terms is the dyadic relationship between actors. Two actors (A and B) have a reciprocal relationship if B replies to a post from A and A replies to a post from B such as the conversation between *supercede* and *sheltered*.

Table 11 lists the top 25 actors in decreasing order of the size of their neighbourhoods. In Chapter Three where reference is made to the specifics of network analysis, the concept "neighbourhood" is described as the sum of all the in-ties and out-ties. The neighbourhood size for each actor is the number of actors to whom they are adjacent. In this particular table, closeness is also calculated.

---

Visible in Table 11, for most of these top 25 actors, the closeness measure is 0.000012913. In network terms, this means that none of the actors are close to each other, reiterating other findings made thus far that all point to a sparse network. In network terms, closeness also relates to betweenness, which is often brought into relation with the influence an actor exerts. In network terms, this is described by the concept power. In the case of the *Africa* category no single actor stands out as exerting particular influence on the rest of this computer mediated social network. This concurs well with other findings outlined in this chapter.

Table 12 lists the top 25 actors in decreasing order according to the per cent of reciprocated ties. Notably, actors have no self-ties, therefore the minimum value for “None” is 0 with the corresponding maximum value of “Neigh” as 1 281 ( $n-1$ ). In fact, “None” plus “Neigh” always equals 1281 in this dataset.

Actors in the *Africa* category, like in other Internet-based social networks, may be classified as “sources”, “sinks” or “transmitters” using social network analysis terminology as outlined in Chapter Two and Three respectively. Sources predominantly post, sinks predominantly reply and transmitters tend to post and reply more or less equally. In Table 12 it is clear that an example of a transmitter is *Dayo*, an example of a sink is *dysfunctional* and *JayDawg* is a source. Suggestive of implications for a view on social capital, perusing the remaining entries in Table 11 and Table 12 respectively clearly show the distinction between the three classes of actors, i.e. “sources”, “sinks” or “transmitters”. Table 12 is sorted in reverse order of neighbourhood size in order to determine those who played a reciprocating role. With implications for social capital, Table 12 shows the lack of reciprocity: only 23 actors engaged at one time or another in a reciprocal reply. This raises questions about social capital but also highlights the nature of communication and interaction on the *Africa* category. Few actors are often active or know each other well, while the majority of actors are seldom active with limited knowledge about others.

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It is notable that if the dataset is sorted by the total number of ties (“Total”) the same actors appear although in a slightly different order. There are 48 reciprocated ties and 5 516 neighbourhood members (including duplicates) providing a reciprocity percentage of 0.87%. Notably, *DanFromPerth* has the highest reciprocity percentage (25% with a neighbourhood of 4) having participated in five threads. *NgaDef* has nearly as high a percentage (24% with a neighbourhood of 46) but participated in 57 threads. It can be deduced from this that *NgaDef*’s reciprocity percentage compares well with that of *DanFromPerth* although the actual number of messages differs vastly. In order to appreciate the differences between the two actors all the information must be viewed and not just the ratios.

### 3.1.4 Clique analysis

In Chapter Three, a clique in network analytical terms is described as a subset of a network in which the actors are more closely and intensely tied to one another than they are to other members of the network” may be visualized by considering a map of the actors involved in a clique. The map of the network between the five actors (*Dayo*, *Frantic*, *NgaDef*, *rockrug* and *taharqa*) that make up one of the 5-member cliques is shown in Figure 3, Chapter Three.

In the case of this dataset with its 1 282 actors, 1 027 threads and 6 547 messages the analysis indicates that there are 301 3-member cliques, 45 4-member cliques and six 5-member cliques. Table 13 indicates the 5-member cliques. The six 5-member cliques in this dataset consist of the following actors. Clique numbers have been arbitrarily assigned for the sake of reference. Each clique consists of five members (actors) who are ordered alphabetically. It should be noted that the CD-Rom included with this thesis outlines the cliques analysed here.

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	Member 1	Member 2	Member 3	Member 4	Member 5
Clique 1	Dayo	Frantic	NgaDef	rockrug	taharqa
Clique 2	Cosmopolitan	Dayo	Katiebell	NgaDef	taharqa
Clique 3	Dayo	Katiebell	NgaDef	rockrug	taharqa
Clique 4	Dayo	Lschweiger	MonkeyGeorge	NgaDef	Pizza_Wheel
Clique 5	Clottedcream	Dayo	MonkeyGeorge	NgaDef	stefo
Clique 6	JayDawg	LizaD	NgaDef	snailhead	taharqa

Each actor that appears more than once is shown in a specific colour not only for easier identification but also to indicate the frequency of appearance of that actor. Those actors appearing once have a white background. The following table reorders the cliques and members to emphasize the frequency of appearance of each actor in various cliques. There are 15 unique actors appearing in the six 5-member cliques. The original numbering of each clique remains the same as above. As may be seen, only cliques 2 and 3 have been interchanged.

	Member 1	Member 2	Member 3	Member 4	Member 5
Clique 1	NgaDef	Dayo	taharqa	rockrug	Frantic
Clique 3	NgaDef	Dayo	taharqa	rockrug	Katiebell
Clique 2	NgaDef	Dayo	taharqa	Cosmopolitan	Katiebell
Clique 4	NgaDef	Dayo	Pizza_Wheel	MonkeyGeorg	Lschweiger
Clique 5	NgaDef	Dayo	stefo	MonkeyGeorg	Clottedcream
Clique 6	NgaDef	JayDawg	taharqa	snailhead	LizaD

It is interesting to visualize the overlap of cliques as shown in Figure 11. In order to determine the members of a clique choose a clique and note the actors who fall within the ellipse of the colour associated with that clique.

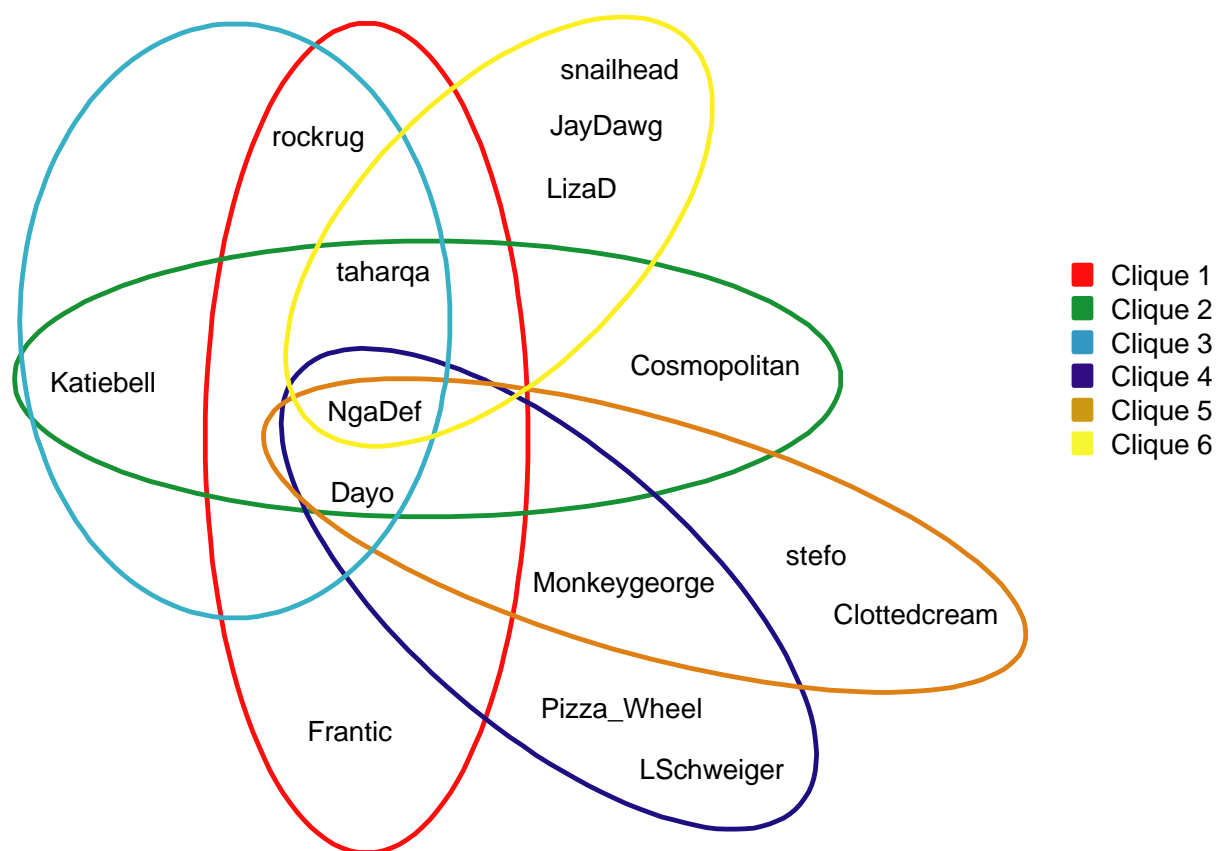


Figure 11 Overlap of cliques on the *Africa* category

Cliques are defined for 1-mode analyses (actor-actor) and not 2-mode analyses (actor-threads). However, it is interesting to note the threads shared by each clique. The threads displayed are shared by at least two members of a clique. Therefore, these threads may be considered inner threads, as they do not span clique boundaries. Threads that span clique boundaries may be considered linking threads and are discussed below.

There are 57 distinct inner threads in which the six cliques participate. As might be expected, an overlap between threads exists. There are 11 threads in which all six 5-member cliques participated and follow in alphabetical order:

- ABTT Airborne Piss-Up
- African taxis: love them or loathe them?
- Free beer competition
- Frivolous Things.
- If I don't ask, I'll never know ....
- It's called what?
- London AB Pissup: 31 May 2004
- More accolades Africa Branch!
- Need a laugh
- What do you miss about Africa?
- Your favorite cities in Africa

The following list shows the occurrence of inner threads that are shared among and associated with the six 5-member cliques. It is interesting to note that although linking threads were not included, there are many threads that are shared by several cliques.

Thread occurrence in

	1 clique	2 cliques	3 cliques	4 cliques	5 cliques	6 cliques	Total
<b>Clique 1</b>	5	0	10	1	6	11	33
<b>Clique 2</b>	2	5	11	2	6	11	37
<b>Clique 3</b>	0	5	11	2	6	11	35
<b>Clique 4</b>	7	5	0	2	6	11	31
<b>Clique 5</b>	0	5	0	1	6	11	23
<b>Clique 6</b>	3	0	1	0	0	11	15

To assist with interpretation of the values in the table consider the column labelled “6 cliques”. All cliques have the value 11, which means that 11 inner threads appear six times and that all six cliques participated in those threads. The column labelled “5 cliques” indicates that six inner threads appear 5 times in all cliques, except clique 6,

participated in those threads. In a similar manner, the column labelled “1 cliques” indicates that clique 1 has five inner threads that appear only once; clique 2 has two inner threads that appear only once; clique 4 has seven inner threads that occur only once; and, clique 6 has three inner threads that occur only once. Cliques 3 and 5 have no single inner threads. The inner threads that appear only once do not span other cliques but rather remain “within” one clique. Inner threads that appear more than once span the number of cliques as indicated by the number of times they appear.

The sum shown in the column labelled “Total”, indicates the total number of inner threads associated with a specific clique. While Table 15 in the Annexure lists each clique with its associated inner threads, Table 14 lists the linking threads for cliques 1 to 6.

Threads that span cliques may be considered a measure of clique overlap and, possibly, interests shared by various cliques. Cliques 1 to 6 have 41 shared threads, cliques 1-5 has 14, cliques 1, 2, 3 and 6 have 4, cliques 4 and 5 have 4, cliques 2, 3, 4 and 6 have 1. Cliques 2, 3 and 5, cliques 2, 3 and 6 and cliques 4, 5 and 6 all have 1 shared thread.

Figure 12 allows the visualization of the overlap of the six cliques. In this map all messages associated with various cliques are stacked or packed on top of one another.

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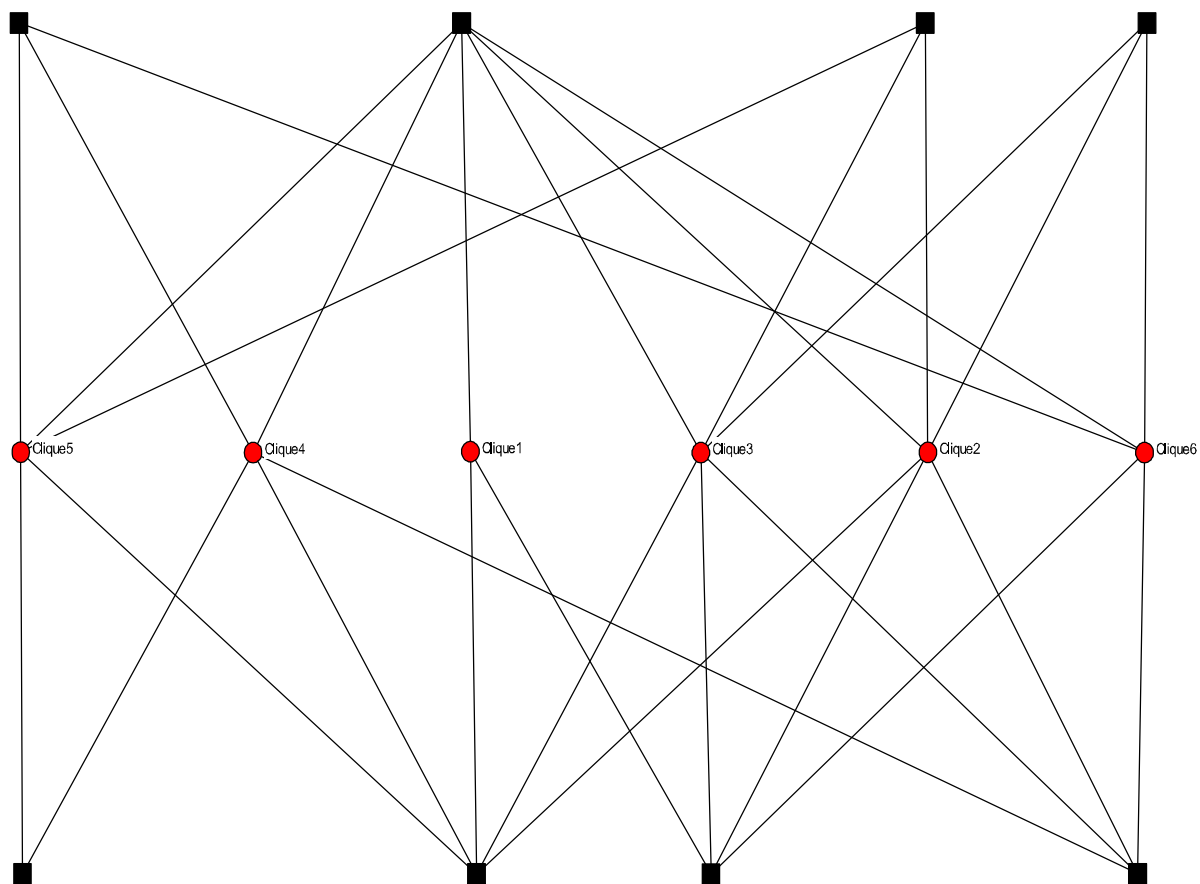
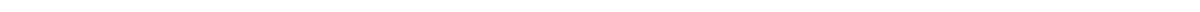


Figure 12 Map showing overlap of 6 cliques

Figure 13 unpacks the threads outlined in Figure 12 by showing the threads associated with each clique.





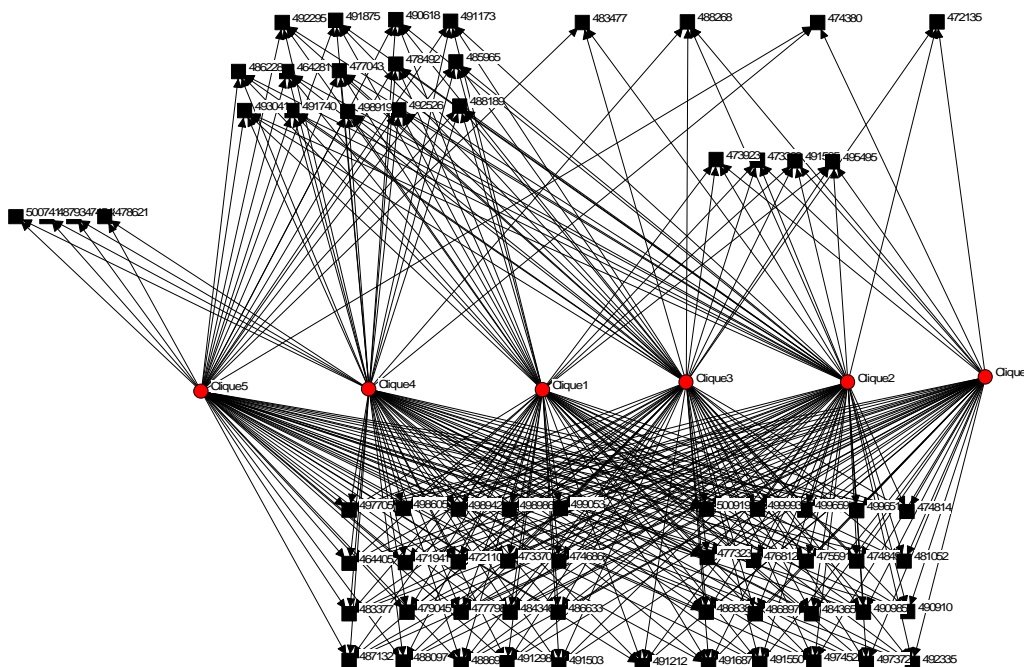


Figure 13 Unpacked map of 6 cliques overlap

The titles of the linking threads associated with various cliques are listed according to the number of cliques that took part in that thread. Note that a linking thread indicates that at least one member of each clique participated in the thread listed.

Cliques 1, 2, 3, 4, 5 and 6 (all six cliques)

- 500
- AB London Pissup Thread: 31 May 2004
- AB Piss-up
- ABTT Airborne Piss-Up
- ABTT Gettogether?
- Accra to Dakar - Roundtrip

- Accra, Ghana
  - Africa is winning today.
  - African taxis: love them or loathe them?
  - AIDS in West Africa
  - And again!!!
  - CHEAPEST FLIGHTS???
  - Crazy African bar names
  - Do Africans see whites as superior???
  - Fanti
  - Free beer competition
  - Frivolous Things.
  - Ghana "Pissup" June/July????
  - I don't have a desire to make money
  - I'm off to Ghana in 10 Days
  - If I don't ask, I'll never know ....
  - Internet access in Elmina???
  - It's called what?
  - Just booked...
  - Living in Africa...
  - London AB Pissup: 31 May 2004
  - London piss-up Monday 31 May??
  - LP Comet announcement
  - Malaria, what is Lariam worth taking?
  - More accolades Africa Branch!
  - Need a laugh
  - poorest country in Africa
  - Proverbs
  - Racism and reverse racism in Africa
-

- shots
- Tetnus shot
- What do you miss about Africa?
- Where NOT to go?
- Which camera to take to Africa?
- WT Pissup Saturday 5th June
- Your favorite cities in Africa

Gleaned from the list of threads above, discussions that draw actors together from cliques 1-6 vary to include reference to face-to-face gatherings while reference to Ghana appears to top the list of destinations. Considering the spring-embedded map outlining the actors and messages of clique 4 (see CD-Rom), it is noteworthy that *LSchweiger* posted a message on 24 May 2004 at 19:25. This message, being the only one of this actor in this dataset, requests information about medication against Malaria, and is entitled "Malaria, what is Lariam worth taking?" This message and the actors who replied, resulted in making *Lschweiger* part of a clique 4. The other actors who replied are *Dayo*, *Monkeygeorge*, *NgaDef* and *Pizza\_Wheel*. All these actors are noted for their high frequency of participation in comparison with other actors.

Cliques 1, 2, 3, 4 and 5 have the following linking threads:

- "other" footwear for riding safari...help!
- a day in nairobi, a day in kampala
- Favourite Place
- Ghana - Rabies inoculation
- Giraffe Manor near Nairobi

- Half day trips?
- How bad are the mosquitos in Kenya and Tanzania?
- Kenya in November?
- Larium causing permanent brainstem damage
- Mombasa to Lamu
- Safari in Kenya and Tanzania plus children
- Sorry, nothing about Ghana...
- Visa for Kenya
- Wilderness camping in Kenya, Uganda...or

From the above, it is notable that threads mostly cover Ghana and Kenya.

Cliques 1, 2, 3, and 6 have the following linking threads:

- African ethnic features
- Flight duration Dakar to Accra?
- Ghana!
- where or where or where?

Cliques 4 and 5 have the following linking threads:

- Driving on the 'wrong side' ?
  - IS this Possible from the UK
  - open ended return flights to Tanzania
  - Things to do around Dar on the cheap
-

Cliques 2, 3, 4 and 6 have the following linking thread:

- Nigeria (Note: There are three threads with this title. This thread has the thread reference identification number (ID) of 488268. The ID of the other two other threads are 473962 and 499839.)

Cliques 2, 3, and 5 have the following linking thread:

- Egypt during Ramaden

SuseNZ posted this message on 17 May 2004 at 02:12.

*Hi*

*We are looking at booking a tour of Egypt for November. The problem is that the only 2 departure time we can do seem to mean we will be there for Ramaden (sp?). The tour we will be doing will not take us off the beaten track, and we will tag on a week at the red sea. Has anyone travelled to Egypt during Ramaden? Does the place shut down? Will we likely encounter any problems? I would appreciate it if you are able to provide us with a unbiased view - as I am afraid that the tour company will just tell us what we want to hear.*

It drew five replies, namely from *stefo* on 17 May 2004 at 03:00, *rOs* at 02:15, *Katiebell* at 06:25, *lise\_oz* on 18 May 2004 at 20:31 and *dysfunctional* on 19 May 06:09. All the actors except *dysfunctional* contributed useful information relevant to

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the question; *dysfunctional*, however, mentioned something that reflects on the sharing of information on the *Thorn Tree*, namely that frequently asked questions are included in an official *Thorn Tree* Frequently Asked Questions (FAQ) section if enough people ask the same question over and over again.

Cliques 2, 3, and 6 have the following linking thread:

- Volunteering in Ghana

Once again, as is the case with the linking messages in cliques 1,2,3,4 and 5, a message is posted about Ghana. On 4 May 2004 at 20:12 *JayDawg* posted a message requesting information about teaching and education work in Ghana. Four replies follow, all with useful information: *rbafrica*, *Katiebell*, *victory108*, and *Fairfax*.

Cliques 4, 5 and 6 have the following linking thread:

- Living in Africa

On the dataset there are two threads with this title. In this case, the thread was originated by *Sayhello* on 6 May 2004 at 23:40.

*An opportunity is on the horizon to spend a few years living and working in Africa - based primarily between Nairobi and Jo'burg but with travel to most of East & South Africa. My question is just how dangerous is living in these cities. You hear all the horror stories (esp in Jo'burg) and i wonder whether its as bad as the news would have you believe. i'm a young white male from australia who's never been to Africa and i'll take all the advice i can get.*

---

From this, *Sayhello* received three replies: one from *Pizza\_Wheel* and two from *Monkeygeorge*.

In reply, *Pizza\_Wheel* posted the following on 7 May 2004 at 7:51:

*Jo'burg is one of my favourite cities and I'd jump at the chance to move down there (I'm jut over the border in gaborone, botswana, been here two years but it's a small town). i think what everyone has said above is true about the exageratin of crime and the complaints by many south african ex-pats who haven't gotten on in the new rainbow nation.*

*On Nairobi my pal is just coming up for 4 years living there and has loved every minute of it; again there is crime just be sensible.*

*Monkeygeorge's* reply was posted at 04:49 on the same day and is insightful, especially for the local tourism industry.

*I understand what #2-4 are saying, but Cape Town was the only place I've been to where I didn't do something I wanted to (walk to Lion's Head for sunset) because I was told it was unsafe. This isn't because of my paranoia, I was taking the advice of the hostel owner.*

*It's a shame because it's probably one of the mst beautiful cities in the world.*

Table 15 lists each clique with its associated inner threads. The threads are in alphabetical order. If the threads identified as inner threads are compared to those

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identified as linking threads, a majority of threads are common to both categories. However there are threads that appear in one group and not in the other as shown in Table 16. In this table it is shown that “Budget for West Africa (in Euros)” and “Sad news from SA” only appear as inner threads and not as linking threads.

### 3.2 Ego analysis of selected actors

Owing to the differentiated nature of actors' interaction with others on the *Africa* category, a graphical view of their neighbourhoods is warranted. In these one-mode networks, a link is established between actors if they participate in the same thread. These actors are *Dayo* a transmitter (post and reply about equally), *dysfunctional* a sink (predominantly reply), *JayDawg* and *Micksailor* examples of sources (predominantly post) and *NgaDef* a transmitter with high reciprocated and total ties.

An analysis of their contributions and the nature of the exchanges in which they are involved are accomplished by using a two-mode network. The latter is used since it allows an affiliation of the individual actors to the various threads by considering messages of which they are the posters as the second mode. The first mode consists of the actors. Furthermore, a limited content analysis of the messages reveals the nature of the exchanges in this online computer mediated social network by analysing the content of messages.

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### 3.2.1 Ego network map for *Dayo*

With reference to Figure 14 the ego-network map for *Dayo* (one-mode) appears to consist of two separate types of connections. On the left side of the plot from approximately the 11 o'clock position counter clockwise to approximately the 5 o'clock position the communications are largely simple and virtually one-on-one. However, the communications links for the remainder of the network are interwoven with numerous links that intertwine with other actors. *Dayo* is a transmitter and is responsible for approximately the same number of posts and replies. *Dayo*'s total number of ties (in-ties plus out-ties) equals a hundred. This may include self-ties and is reflective of the level of activity of this particular actor.

Figure 14 needs to be read in conjunction with Table 18. The table lists every message for which *Dayo* is responsible. Figure 14 is, however, a simplification since it counts the number of threads and not the number of messages. From this figure, it is visible that *Dayo* is involved in threads that also draw other actors to conversations who in turn are involved in other threads. In particular, the following actors are mentionable: *Pizza\_Wheel*, *Kingdoomy*, *Katiebell*, *NgaDef*, *Dysfunctional*, *Londonviking*, *Julie\_L*, *Scoubidou*, *Frantic*, *twilkie22*, *eldo*, *stedo*, *Clottercream*, *Monkeygeorge*, and *taharqa*

In an effort to explain *Dayo*'s ego-network it is necessary to consider the content of some of the messages for which this actor is responsible. A thread *Dayo* initiated (poster) that drew sixteen unique responses was "Favourite Place", posted on 26 April 2004 at 01:22. It reads:

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*Three places i'd go back to in a minute: The south island of New Zealand, specifically hiking in Nelson Lakes NP; Havana Cuba, can't beat the people, culture and architecture...what a vibe!; Bukhara, Uzbekistan, like a living museum, safe, friendly and totally unspoilt by tourism.*

What are we to make of the figure and the connector lines? On the ten o'clock position in Figure 14, this link is represented with a pointed connector line. The base of the line is positioned on *Dayo's* node, while the arrow points to *Rascal's* node, signifying that *Dayo* is the source and *Rascal* the replier. On the accompanying matrix, *Dayo* is situated in the row and *Rascal* in the column.

*Monkeygeorge*, one of the actors noted above for contributions to other threads in which *Dayo* was also active reacted as follows:

*Very tough, but three very different places that spring to mind are: Bundi, India; Sossusvlei, Namibia; Tunku Abdul Rahman marine park, East Malaysia.*

Positioned on the nine o'clock position in the graph, *zippyq*, made the following contribution:

*A restaurant on the beach facing the sunset at Railey Beach/Pranang in Thailand....the food and the view and the weather and the overall feeling were so amazing. The Angkor ruins in Cambodia, particularly the site all overrun with trees - an architectural, historical, and natural*

*wonder, and you could climb all over it and explore every delightful inch, at least when I was there a year and a half ago. I am so glad I went when I did because it looked as if in the future sites would be fenced off and railings erected and so forth. It won't be so marvelous forever. The streets of Rome, just wandering, smelling the pollution and vegetation and heat mixed together.*

In the message above the willingness to share this information has implications for others too. Taking heed of the warning that fences and railings could affect future experiences, some members might consider taking a trip there before it happens. In Chapter Five the matter of people's willingness to share information that could influence others' experiences is brought into relation with the value aspects of social capital. The value of the information is in this case not influenced by the fact that these ties are largely weak ones. This suggests the actual strength or value of weak ties in an exchange network of this nature.

Considering another actor, *Walms1804*, and relating it to the graph (Figure 14), *Dayo* replied to a message *Walms1804* originally posted on 30 May 2004 at 08:52 with the subject "Driving across africa". *dysfunctional* is an actor noted for considerable exchanges on the *Africa* category and visibly connected more than others in *Dayo*'s ego-network. This actor replied to *Walms1804*'s message, as did *Pizza\_Wheel*. This explains the pointed connector lines in Figure 14 from *Walms1804* to *dysfunctional* and *Pizza\_Wheel* respectively.

For a different perspective on *Dayo*, Figure 15 represents all the messages to which this actor is affiliated. Based on a two-mode network, it needs to be noted that the matrix was normalised which means that all connections were reduced to one; more

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is acceptable in network analysis where content analysis or other forms of qualitative research are used to reveal more about the nature of the ties present among actors.

### 3.2.2 Ego network map for *dysfunctional*

The ego-network for *dysfunctional* is largely uncomplicated, mostly because this actor is clearly a replier: there are no out-ties. Messages are analysed for greater clarity in order to ascertain the nature of *dysfunctional*'s contributions. Consider Figure 16 (ego network), Figure 17 (contributions to threads) in conjunction with Table 19.

Unlike *Dayo*, there are fewer connections among actors in this neighbourhood. This suggests that the threads that *dysfunctional* initiated (original poster) did not draw (repeated) replies from actors in this neighbourhood. Furthermore, it needs to be noted that *dysfunctional* is a sink, in other words, a replier rather than a poster.

Table 19 outlines all the posts for which *dysfunctional* is responsible. This is read in conjunction with the two-mode graph (Figure 17) outlining *dysfunctional*'s affiliation to threads. It is clear that *dysfunctional* contributes to threads of varying topics, for example South Africa ("South Africa entry reqs", "South Africa visitor's permit for 7 months"), Morocco ("trains in Morocco", "Recommendations for short stay in Morocco", "Morocco", "short camel trip into desert in Morocco", "ramadam in marakesh", "Morocco, Tunisia and Malta", "Moroccan trains", "Royal Air Maroc Pilto Strike", "Hire cars to Morocco", "Morocco with GAP Adventures") and Egypt ("Egypt questions", "Egypt to Europe by sea", "Are cellular phones forbidden in Egypt?", "Ferries between Greece and Egypt", "Paris Dakar").

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The original post was made by *Dayo* on 2 June 2004 at 09:09 and read:

*Woo hoo, exams are over! And to prove that I can still start decent threads when I'm not avoiding revision, here's the next one...What's the funniest/most stupid name for a product you've ever seen?*

*Chloe :)*

From this can be deduced that the noted actors in this dataset interact, which reiterates their prominence in this network. This does not, however, automatically assume a measurable influence since it has been established that no-one exerts particular power in this sparse unconnected network.

Moreover, from the message above, *NgaDef* is clearly aware of the nature of computer-mediated communication and does perhaps seek some form of fame by starting a thread that will draw the highest number of messages or a thread that will outrun all others in terms of duration. The fact that one of *NgaDef*'s messages attracted the highest number of replies does not mean it added value to travel-related information. It does, however, influence *NgaDef*'s position and levels of connectivity in this network and might even add to this actor's fame.

#### **3.2.4. Ego network map for *JayDawg***

The ego network for *JayDawg* (Figure 20) shows a contribution that consists mostly of postings (13 postings and 11 replies). This means, as noted early, that *JayDawg* is a poster. The network is relatively simple but the posts from *dysfunctional* may contribute to the posts and replies of those within *JayDawg*'s neighbourhood.

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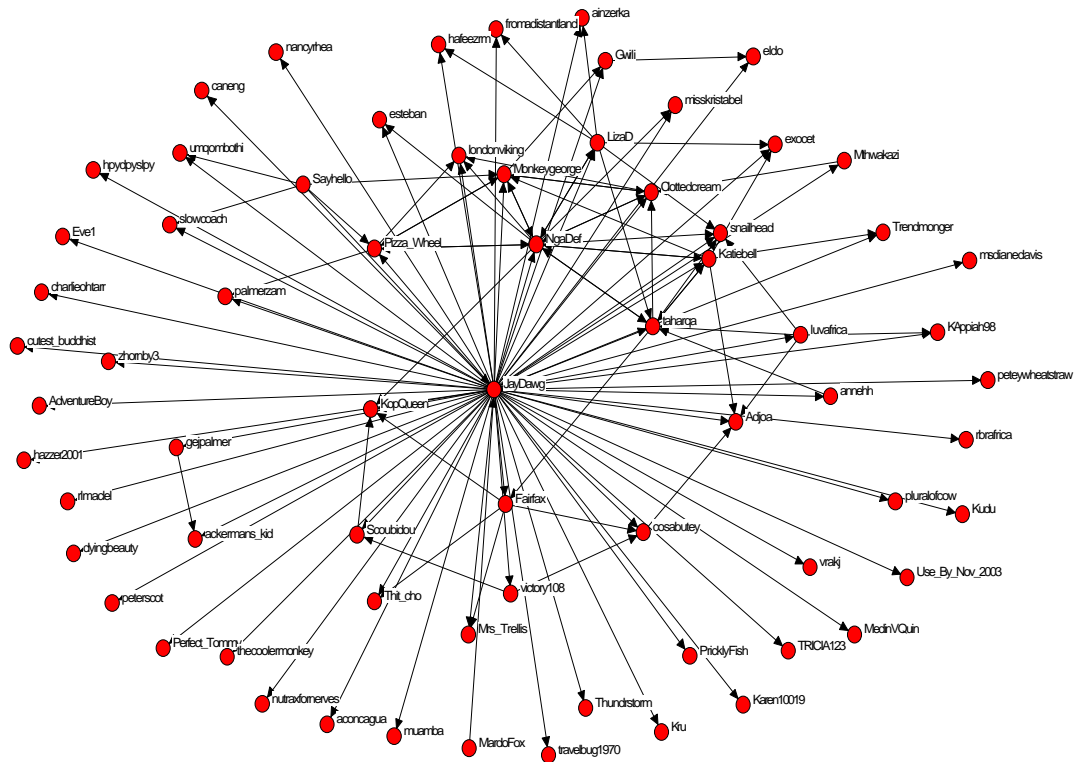


Figure 20 Graph-theoretic layout of an ego-network *JayDawg*

Table 21 lists the topics as they appear on the *Thorn Tree*, with an indication of the date and time and whether *JayDawg* is a poster or replier. It is sorted according to date, which assists in gaining insight into the activity patterns of this particular actor on the *Africa* category.

The first message posted by *JayDawg* on 4 May 2004 at 20:12 with the subject line “Volunteering in Ghana” reads:

*Anyone have any experience? What are the best organizations, and which are the ones to steer clear of? I am mainly interested in teaching/education work.*

*JayDawg* received four replies on this request, namely from *rbrafica*, *Katiebell*, *victory108*, and *Fairfax*.

Another thread that *JayDawg* initiated drew a considerable number of responses due to its political and racial connotations. It was posted on 6 May 2004 at 11:53 with the subject “African ethnic features”.

Mostly a poster, the two messages to which *JayDawg* responded (reply) are notable. The first messages (ranked according to date) to which *JayDawg* replied is “what's up, niger”. On 6 May 2004 at 08:05 *MardoFox* posted the following:

*I'm heading to Niger for a year starting in August. I suppose I'll be based in Niamey. So, if you've been or are going, know someone whose there, etc. please do drop me a line at bailey\_sarahk@yahoo.com. i'm 26/f american working with a development/relief NGO). happy trails to all. sarah*

To this, *JayDawg* replied on 6 May 2004 at 13:03 “Are you going to buy uranium?”

A thread with the subject line “Living in Africa” contains *JayDawg*'s second reply. *Sayhello* made the original post on 6 May 2004 at 23:40. It reads:

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*Hi all, An opportunity is on the horizon to spend a few years living and working in Africa - based primarily between Nairobi and Jo'burg but with travel to most of East & South Africa. My question is just how dangerous is living in these cities. You hear all the horror stories (esp in Jo'burg)... i'm a young white male from australia who's never been to Africa and i'll take all the advice i can get.*

To this, *JayDawg* replied on 7 May 2004 at 00:11:

*Never been there, but I have a really good friend from S.A. and she says it really is as bad as they say, if not worse. Their reaction if someone was robbed is "Just be grateful you weren't killed". Almost everyone she knows has been a victim of crime. When she went home for a visit, she was afraid to go to the beach on her own, because it's dangerous.*

Taking the nature of exchanges on the *Thorn Tree* into account, the reaches of *JayDawg's* neighbourhood and contributions, the impact an actor such as this one can make by sharing views and information to fellow travellers becomes clearer. From the information contained in the message above, *JayDawg* relates information obtained from a "good friend" from South Africa. It is not possible to know what *Sayhello's* reaction to this advice might have been since there is no follow-up reply. Considering aspects related to social capital, such views surely do exert an influence on the decisions others might make who read these messages. Subsequently, ties are assets since they open opportunities to exchange information; the latter being a resource with value, i.e. capital as far as it denotes social capital.

---

Based on these network analytical findings, *JayDawg* could best be described as an actor who asks a lot. What does this actor contribute? A thread which caused some reaction among other actors was posted on 2 June 2004 at 11:02 with the subject “Do Africans see whites as superior?” This is an example of a message that does not relate directly to travel information but rather draws on the views of actors about race and ethnicity, political views and general knowledge about the world which can be indicative of first-hand experiences gained while travelling. In this instance *JayDawg* initiated a discussion that has implications for the structure of the network since actors could react that might not have posted messages if the content was different. This particular point is, however, speculative and needs further analysis before any concluding remarks can be made.

### 3.2.5. Ego-network map for *micksailor*

This actor is included in a detail discussion here for contributing the highest number of posts, i.e. originating 20 threads and replying to three others. *JayDawg* too is mostly a poster, as outlined above having started thirteen new threads and replying to eleven others. In comparison, *NgaDef* originated five threads while posting 110 replies.

On 05 May 2004 07:04 *Micksailor* posted the first thread contained in this dataset with the subject line “Maputo,...Worth it...?”

*I have the opportunity (I guess) to go to Maputo from Jo`bur for 3 days. The costs will be approx 80US \$ for bus/train return and a 50 US\$ Visa application fee, thus a total of 130 US\$ to see a city for 3 days OR I could add these 3 days to my already 2 weeks in tanzania thus avoiding the 130 US \$. It`s just that I`ve read somewhere that Maputo*

---

*is a great city with great fun and nightlife and culture. Could someone suggest to me whether they would go to Maputo for 3 days for the above mentioned incremental costs and describe what I would be missing if I DID go!*

This message received only two replies, one from *LizaD* and the other from *tbateman*, posted on 5 May 2004 at 11:46:

*Tough one. Maputo is a really fantastic city, I admit. If money is a huge issue than you should stay in Tanz. Where will you be in Tanz? My friend had a great time out in Moshi. Said there were great clubs there. So if money is an issue, tell yourself Maputo will be there next time. That's what I do :) Don't think this helped much....sorry.*

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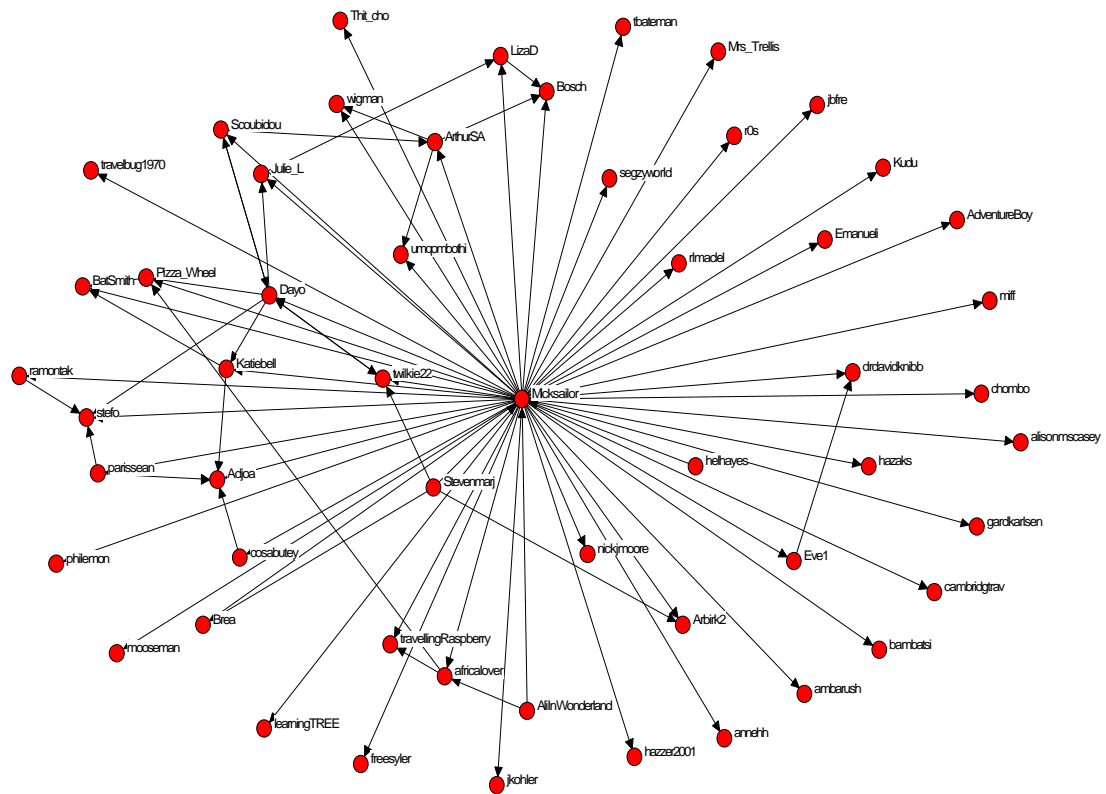


Figure 21 Graph-theoretic layout of an ego-network *Micksailor*

A second thread started by *Micksailor* drew more replies, one by *umqombothi* and four by *ArthurSA*. These replies were in reaction to *Micksailor*'s message with the subject line "Jo`burg TO Maputo (Time and Cost) - DESPERATE FOR INFO" posted on 5 May at 07:56.

*Hey all,*

*Could someone PLEASE tell me how long it takes to get from Jo`burg to Maputo, How much it costs and if it could be done OVERNIGHT by*

*Bus/Train. If it can be done by Bus/Train, is there a website with the timetable and costs????*

Table 22 in the Annexure lists the threads in which *Micksailor* participated. It needs to be reiterated that *Micksailor* is predominantly a poster with only two messages being replies.

What transpires from a content analysis of *Micksailor*'s messages is an opportunity to go to Africa and a constant stream of questions about specific regions and destinations in Africa. The following message is perhaps the most revealing about *Micksailor*'s continued interaction on the *Africa* category. Posted on 21 May at 10:19 with the subject line "First hand experience ALWAYS better", *Micksailor* wrote:

*I know I can read about the cities in the LP guide BUT, i would prefer to make a decision based on peoples first hand experience and would like to know whether I shuold spend 3-4 days in Kampala/Jinga or spend them in Harare? Thanks everyone.*

Only one other actor replied to this message, keeping in mind that *Micksailor* started posting messages on the *Africa* category about a planned trip to Africa on 5 May 2004. *Africalover* replied on 22 May 2004 at 04:09 as follows:

*Regarding that most african cities are not particularly interesting... Kampala is a quiet, nice city. Easy to get around (never experienced problems day or night), some nice bars and discos of western standard for evening intertainement. Good facilities to stock up on anything (good banks, internet cafés are very cheap,...) but quite a lot of power cuts even well within the city. Lake Victoria is neer (I don't know of any*

---

*infection from swimming ther yet :-D). It's an easy connection from Nairobi for example. People are very friendly.*

*I have never been in Harare but in Bulawayo. Liked it too- gives much more the impression of a real big city, just spend one day though.*

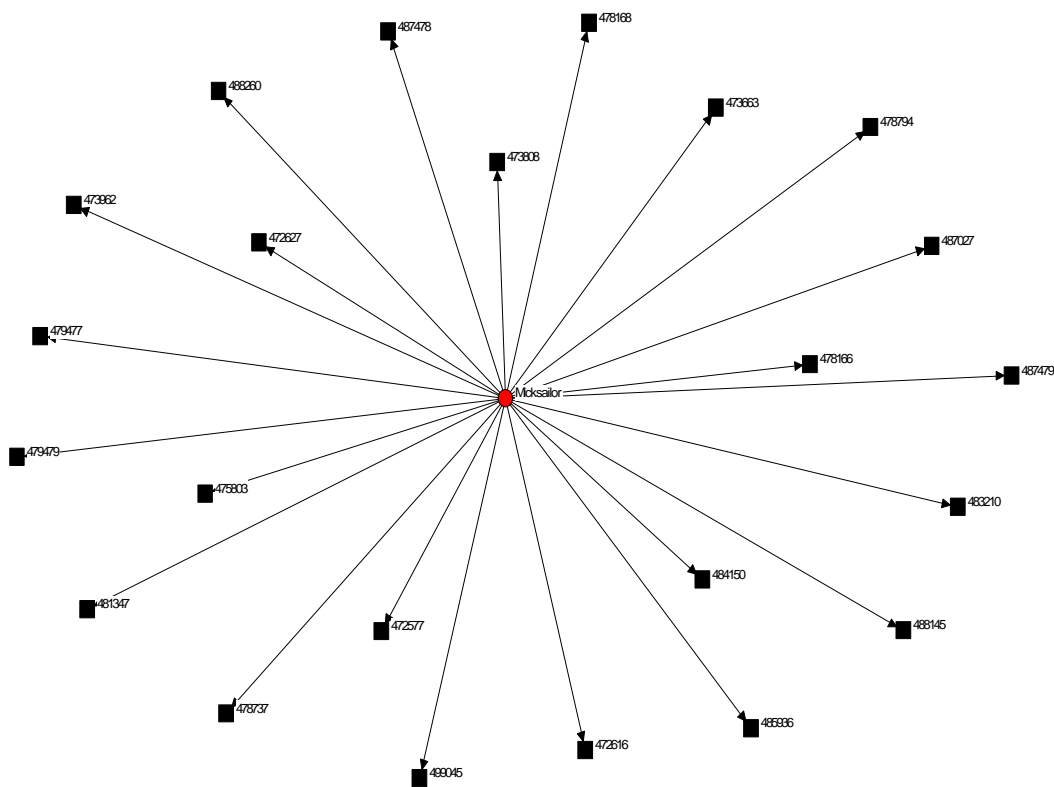


Figure 22 Graph-theoretic layout of *Micksailor's* contributions

### 3.2.6 Concluding remarks regarding noted actors

Considering the nature of the *Thorn Tree* as an example of an online discussion board, it is not strange to note the varied nature of discussions on the *African* category found on the *Departure Lounge* branch. Since other categories were not investigated, a comparison cannot be made with regard to style and nature of contributions, types of contributions and levels of activity amongst an array of other characteristics. As mentioned in Chapter Five, this leaves room for further study, which will also test the replicability of this study, as mentioned in Chapter Three.

If one considers the extent, frequency and nature of information exchanges made on the *Africa* category of the *Departure Lounge* branch, one can appreciate the variety of questions people have before making leisure choices. In this regard, *Micksailor's* posts are apt examples of someone who turns to the *Africa* category of the *Thorn Tree* after an opportunity has arisen for this actor to go to Africa. As outlined in Chapter Five, categorising messages and analysing messages and the nature and number of replies calls for a more in-depth study. Although this study cannot express any concluding remarks about features such as levels of trust within networks, perhaps the prominence of an actor could carry enough weight for levels of trust to increase too, although proving this would be difficult without qualitative research.

Furthermore, in agreement with Field (2003:104-105), the wider consequences of online interaction cannot be determined. A network analysis together with a limited content analysis of selected threads can indeed reveal the extent to which travellers are willing to exchange and share information with others but also the type of information that they exchange. Based on a network analysis, it is clear that this network is not dense and that it is characterised by weak ties. It needs to be reiterated however that the lack of density is not equitable to uselessness. In fact, as Granovetter's landmark study (1973) points out, weak ties are useful.

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A one-mode network analysis also allows for placing actors within the network by ascertaining with which other actors they have ties. A tie is formed when actors post messages to particular threads. In those cases where actors post a message and it draws no reply and the actor also does not participate in any other threads, an isolate is formed, i.e. an actor without any ties. However, in terms of the nature of information exchanges, content analysis more than network analysis outlines the value embedded in these messages. Notably, determining the value travellers might attach to the information gleaned from other travellers is open to academic scrutiny. This particular point is not an aim of this study, although it is suggested when considering matters relevant to social capital. It is, nevertheless, important to note that on a discussion board such as the *Thorn Tree*, many messages are conversational in nature, which means that it does not contain information that could be useful to other travellers. This does not mean that such messages are unimportant, since ordinary conversation opens avenues for exchanges that could lead to greater levels of socialisation and community formation.

### **3.3 Two-mode perspective**

#### **3.3.1 Events**

Events consist either of threads or message and relate to which ones were the most popular, that is, the ones that induced the most activity. The number of individual actors as well as the total number of messages associated with each thread is listed.

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### **3.3.1.1 Individual actors contributing to a thread**

The threads that attracted the highest number of individual actors to respond are listed in Table 23. Actors are counted once only and multiple posts are treated as one posting.

The column “Title” indicates the title of the thread. The columns “Mean”, “Std” and “Var” indicate the mean, standard deviation and variance of the contribution of this thread to all threads. As with the one-mode analysis, there is no predominant thread that overwhelms the branch. The column “Sum” indicates the number of individual actors including the poster that contributed to each thread. For example, 25 individuals contributed to the thread: “What do you miss about Africa?”

### **3.3.1.2 Message constituting a thread**

The threads that attracted the highest number of replies are listed in Table 24. Actors are counted once for each posting to a particular thread.

The column “Title” indicates the title of the thread. The columns “Mean”, “Std” and “Var” indicate the mean, standard deviation and variance of the message associated with each thread. As with the one-mode analysis, there is no predominant thread that overwhelms the branch. The column “Sum” indicates the number of all actors including the poster that contributed to each thread. Therefore, the “Sum” indicates the total number of messages and includes the original posting. For example, 43 messages followed the initial posting (44 in total) of the thread “What do you miss about Africa?”

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### 3.3.2 Actors

An actor either acted as a poster or replier of a number of threads. The number of threads or messages to which individual actors contributed is discussed in this section. As with the one-mode network the top 25 actors are listed for each category.

#### 3.3.2.1 *Threads contributed to by individual actors*

The actors that contributed to the most number of threads are listed in Table 25. The messages are counted once only and multiple posts are treated as one posting.

The column “Participant” indicates the name or handle of the actor. The columns “Mean”, “Std” and “Var” indicate the mean, standard deviation and variance of the contribution of this actor to all actors with respect to threads. As with the one-mode analysis, there is no predominant actor that overwhelms the branch. The column “Sum” indicates the number of individual threads the actor to as either a poster or a replier. For example, *dysfunctional* contributed to 83 threads.

#### 3.3.2.2 *Messages contributed by individual actors*

The actors that contributed the most number of messages are listed in the following table. Both messages and threads are counted. See Table 26.

The column “Participant” indicates the name or handle of the actor. The columns “Mean”, “Std” and “Var” indicate the mean, standard deviation and variance of the contribution of this actor to all actors with respect to messages. As with the one-mode analysis, there is no predominant actor that overwhelms the *Africa* category.

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The column “Sum” indicates the number of total messages and threads the actor contributed to either as a poster or as a replier. For example, *NgaDef* posted 115 messages in total, of which five are posts (starting a thread) and 110 are replies. This is far more than the two messages of an actor such as *sheltered* for example. In this dataset, *NgaDef*’s total number of messages is considered a high number by one individual actor. Similarly, *JayDawg* contributed thirteen posts and eleven replies, *Micksailor* twenty posts and three replies, and *Dayo* seven posts and 105 replies.

### 3.4 Selected threads and actors

The top-three threads are listed in Table 24 according to the total number of messages received. The table is in date and time order.

In the first thread, namely “More accolades Africa Branch!”, the replies simulate that of a conversation. There is even the occasional afterthought appearing as if an actor wanted to add an almost forgotten thought.

The following two threads (“What do you miss about Africa?” and “African ethnic features”) are discussed in the sub-sections below and almost appear as serial monologues in comparison to the thread entitled “More accolades Africa Branch!” There are very few contributions or interactions and the concept of a dialogue is more or less nonexistent.

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### 3.4.1 The “More accolades Africa Branch!” thread

On 6 May 2004 at 02:11 *NgaDef* posted the following message, thus starting a new thread with the subject “More accolades Africa Branch!”

*My second ever LP TT Thread of the day!! African taxi stories. I feel so humble :)*

*Dayo* was the first actor to reply. On the same day, at 02:38 *Dayo* posted the following:

*Yay! Congratulations NgaDef, it's a great thread.*

Similar to what could be expected in a normal conversation, *NgaDef* replies at 03:05 *NgaDef* with the following acknowledgement:

*Why thank you Dayo*

Later, following on a reply by *Pizza\_Wheel*, one of the actors noted in an earlier subsection, *NgaDef* once more replies:

*P\_W You're right. It's time I mixed a better class of poster. Thanks for the recipe I'll try it. The blatjang is still in my fridge. We have some great photos of the meal. I expect they'll be posted eventually*

---

Proceeding in a conversational manner, *Pizza\_Wheel*'s reply to this is:

*So you've got round to reading the #1 ladies detective agency????  
I drove down Zebra Drive yesterday, which is as close as we get to  
Zebra Close....I don't keep my blatjang in the fridge!*

By the next day, on 6 May 2004 at 06:07 *londonviking* uses the thread started by *NgaDef* to address *Pizza\_Wheel* (note the abbreviation “*P\_W*”) and also to congratulate *NgaDef* on a “great thread”:

*P\_W, what are your plans at xmas? I'll be in Cape Town from 16 Dec,  
meet up somewhere?! BIG congratulations on the posting of the day  
NgaDef!! LV*

Figure 23 is a visualisation of this thread, showing the different actors who are affiliated to it through their contributions. Refer to Table 27.

As suggested earlier, the findings from this section reiterate the fact that not all messages are contributing any useful information as far as it concerns travel. However, what is evident here is the nature of the interactions and the levels of socialisation that are evident among actors. It also illustrates the nature of computer-mediated communication. In this instance, *NgaDef* is noted as an actor that has achieved the highest number of replies to a message.

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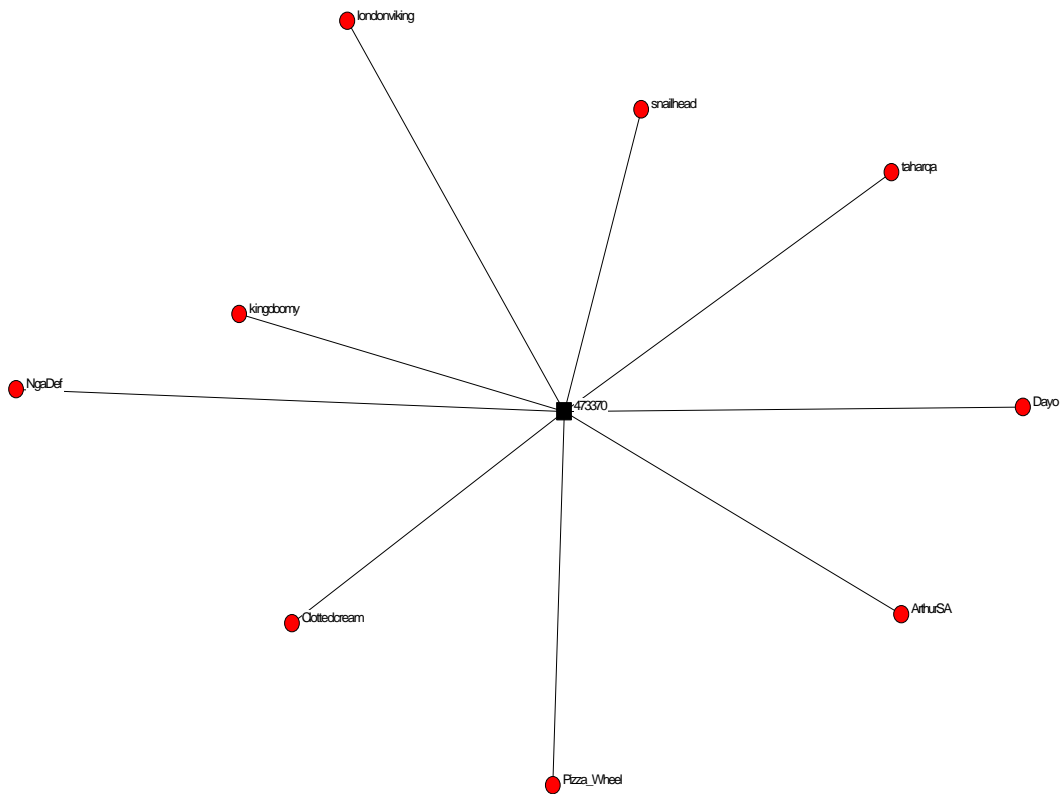


Figure 23 Graph-theoretic layout of the thread “More accolades Africa Branch!”

### 3.4.2 The “What do you miss about Africa?” thread

With reference to Table 28, On 25 May 2004 at 12:32 *rockrug* posted the following message, thus starting a new thread with the subject line, “What do you miss about Africa?”:

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*I am sitting here in my office trying to get some work done. I popped in one of my CDs with African music on it and now I find my mind drifting back to West Africa and I really miss it. I miss the people. I really miss the music. We all hear about the problems with Africa but the longer I am away from it, the more it miss it.*

*What do you miss most about traveling through Africa?*

Numerous other *Thorn Tree* members replied, revealing their travel experiences and memories about their travels through Africa. While the complete thread can be accessed from the CD-Rom that is included at the back of this thesis, some of the messages are outlined here.

On 1 June 2004 at 07:54 *Badmonkey* replied:

*I miss the barking gekos in the Nassob tented camp, Kalahadi Transfrontier Park. when i think of Africa my office loses two feet on each side.*

One actor discussed in more detail in this thesis, *NgaDef*, replied on 25 May 2004 at 13:09 as follows:

*I never feel alone. In Africa you are always with: Your brothers Or your sisters*

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Using a conversational tone in reply on *NgaDef*, rather than in reply to the original message, *Frantic* replied on 25 May 2004 at 13:10:

*I know what you mean. I got back a few months ago and have started dreaming of the dusty paths, amazing plants, lovely people, smells, sun, food and beautiful scenery. That's the great thing about ABTT, many people wanting to be transported from wherever they are now, back to the places in Africa they love the most!*

*One thing I don't miss is the Kenyan potholes. My osteopath told me today that three months bumping and flying over them in matatus is probably a major factor my recent acquisition of sciatica....*

A message that is indicative of the ability of the Internet to bring people together in social networks is that of *Sandyoz* who replied on 25 May 2004 at 14:00 as follows:

*Gosh...I thought I may be the only one sitting and dreaming about Africa....*

The remainder of the message reveals something about the influence real travel has on travellers:

*My visit has had a profound effect on me..I realise that actually having less is more...potholes as well...I made so many African friends...I am returning to see them all in September and in the meantime all I can do is stare out of the window and dream. Troubles and all..there were*

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*more smiles there than I had seen in a lifetime....which just goes to show....*

Notably, another actor that is discussed in detail in this thesis gives consolation. On 25 May 2004 at 14:14 *Dayo* replies:

*Never Sandyoz - there's always someone. Ouch Fran, sorry about the sciatica. That'll probably be me in a few years time. Damn those potholes! Brian, I miss the kids I worked with and all my friends. Then there's the amazing views and oh those African nights.  
Chloe :)*

The next day (26 May 2004 at 03:20) with a couple of messages in between, *Frantic* posted a message in reply to *Dayo*. Resultantly, a short conversation starts between these two actors:

*Thanks Chloe - the only good thing is I've been off work for three weeks in this lovely weather (although today's looking a bit grim!)  
Fran*

Obviously being online at the time, shortly thereafter *Dayo* replies at 3:40 on the same day:

*You're welcome Fran. The weather's only nice cos it's exam time anyway - when we've finished them it'll turn nasty again no doubt! As you can see I'm a natural optimist ;)*

---

In reply, *Frantic* writes an hour and a half later (04:31)

*Well quite! Exams and bank holidays - always sunny then pouring with rain!*

*Dayo's* next reply suggests some insight and knowledge about *Frantic's* personal life:

*Yep, that's right. Just being nosey now Fran, but have you thought of any names for Baby?*

The above thread is a clear indication of the role computer-mediated communication plays in the daily lives of members (or in network terms, actors) who form part of a social network. This thread is visualised in Figure 24. Also refer to Table 28. It also points at the benefits of being online. With reference to issues of accessibility to the Net (Kendall, 1999: 58-59), it cannot be ascertained with any amount of certainty if *Dayo* might have a permanent Internet connection which furthermore reiterates findings about the integration of the Internet in everyday society as outlined in Chapter Two.

Unlike *NgaDef* whose thread does not carry much in terms of travel information, *rockrug's* thread is related to travel experiences and invites other actors in this network to share their experiences.

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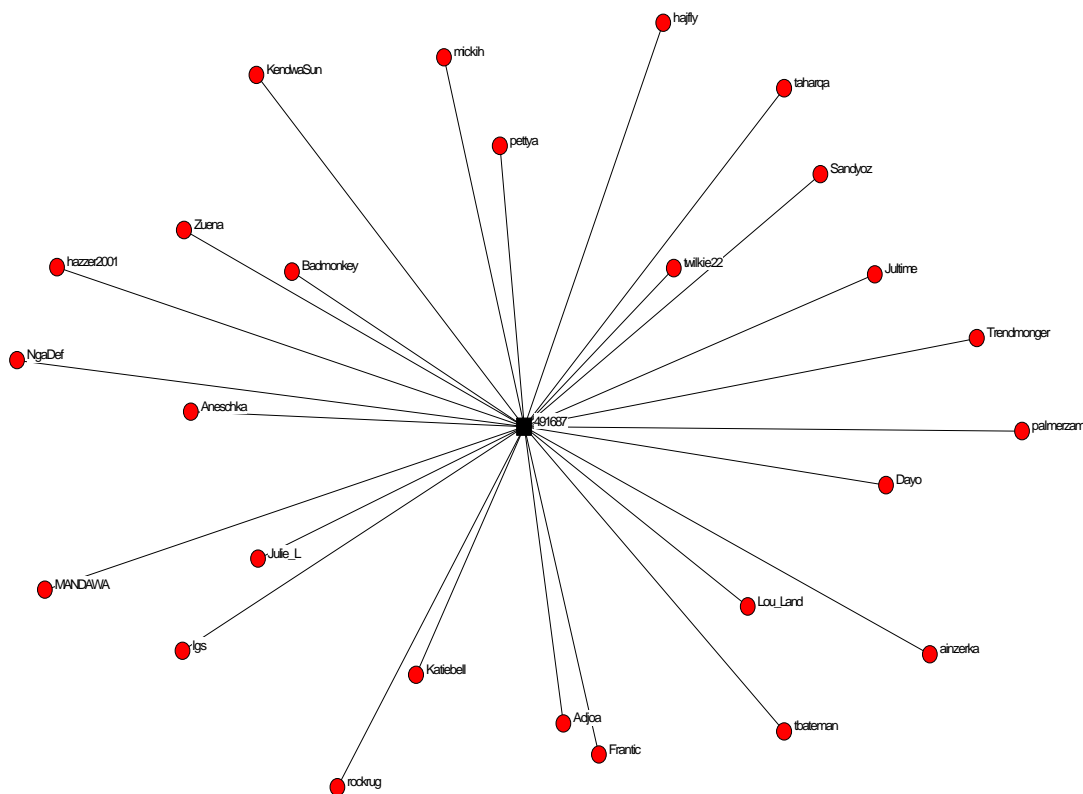


Figure 24 Graph-theoretic layout of the thread “What do you miss about Africa?”

### 3.4.3 The “African ethnic features” thread

*JayDawg* is noted at the outset of this sub-section as a transmitter with mostly out-ties. It is subsequently necessary to investigate a post originated by this actor. On 6 May 2004 at 11:53 the following message with the subject line “African ethnic features” (Table 29 and Figure 25) appears on the Africa category of the *Thorn Tree*:

*I am pretty sure people who have spent a lot of time in different parts of Africa can tell what region a person is from just by looking at them,*



*right? Just like for people who haven't spent a lot of time in Asia, all East Asians look the same, while those that have can often tell a Chinese from a Korean or Japanese, etc. I have noticed that people in West Africa seem less dark than those in Eastern or Southern Africa. And Ethiopians/Eritreans have thinner noses and lips than most other Africans. Aren't Kenyans also taller than Ghanaians, for example? I know this is a very general question, but what are the facial and other characteristics by which one can tell people in different parts of Sub-Saharan Africa apart?*

On an internationally accessible computer mediated social network such as the *Thorn Tree*, the reaction to such a post is expected. The complete thread can be accessed from the CD-Rom included at the back of this thesis.

On 10 May 2004, this thread came to a close having started on 6 May 2004. This corresponds well with findings noted earlier in this chapter regarding survival analysis.

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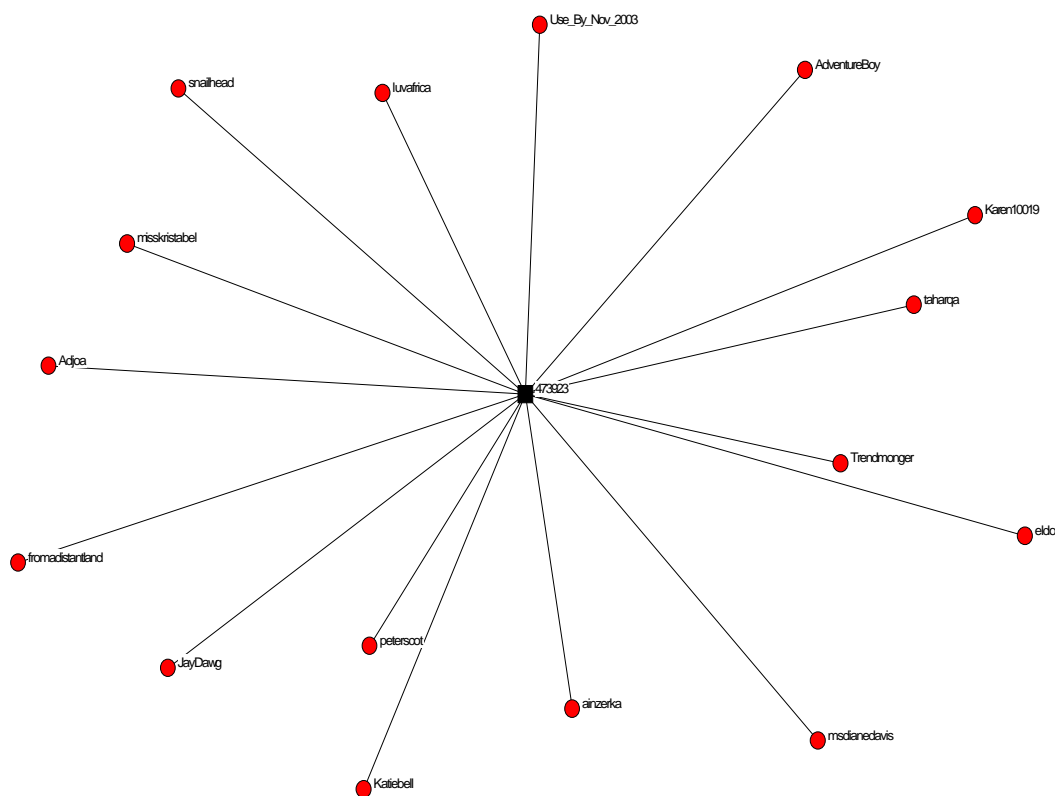


Figure 25 Graph-theoretic layout of the thread “African ethnic features”

### 3.5 Common threads: *NgaDef*, *Dayo*, *dysfunctional* and *Micksailor*

Figure 26 is a graphical representation of an ego network based on a two-mode matrix for *NgaDef*, *Dayo*, *dysfunctional* and *Micksailor*. This effectively combines the four individual visualisations for each of these actors described in the respective sub-sections above.

There are ten common threads between *NgaDef* and *Dayo*. These are listed in Table 30. There are four common threads between *Dayo* and *dysfunctional*. These

are listed in Table 31. There is one common thread between *Micksailor* and *Dayo*, namely “Masai Mara OR Amboseli OR Ngorogoro Crater???” *Micksailor* has no common threads with any of the other actors in this two-mode view.

There are two common threads between three of these actors with the exception of *Micksailor*. These are “African taxis: love them or loathe them?” (Thread ID 464405) that was posted on 26 April 2004 at 04:49 by *NgaDefi* and *And again!!!* (Thread ID 499651) that was posted on 3 June 2004 at 02:31 by *twilkie22*. Only the second thread listed above is dealt with in more detail below, since the first one has already been dealt with in a previous sub-section. The complete thread can be accessed from the CD-Rom.

On 3 June at 02:31 *twilkie22* posted the following message, thereby starting a thread under the title “And again!!!”

*Dayo you really should do exams more often - the fab questions just keep coming! Thread for today. Keep up the good work! :)*

Short replies between a very limited number of actors that are noted for being more active than others on the *Africa* category follows.

On 3 June at 04:27 *NgaDef* replied:

*I'm so proud*

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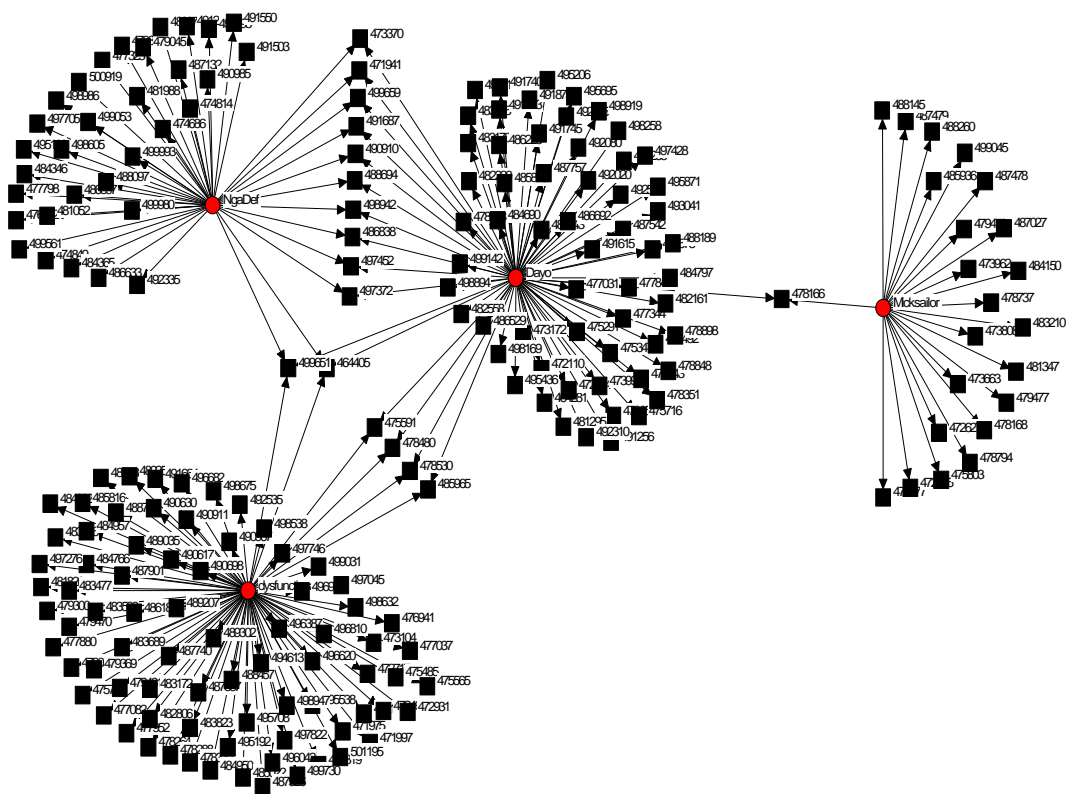


Figure 26 Common threads: *NgaDef*, *Dayo*, *dysfunctional* and *micksailor*

On 3 June at 04:33 *Clottedcream* replied:

*NgaDef* - you sound like *Dayo's* Dad! Well lets hope she performs as well as on ABTT in her exams!! Are they over yet? Congrats *Dayo*....is it your third thread of the day?

On 3 June at 04:49 *NgaDef* replied "She's my cyberspace little sis ;)". On 3 June at 04:58 *kingdoomy* replied:

*Dayo for our new princess! Keep up the good work and become the new ABTT Queen, (pinch HoT dress!) You'll be great at those awards in december!!! 6 months to go!!!*

In short succession, actors responded to each other simulating an ordinary conversation. Nevertheless, the computer-mediated communication made possible on the *Thorn Tree* remains asynchronous in nature, which means that there can also be considerable time lapses between responses. On 3 June 2004 at 05:10 *NgaDef* replies:

*Peaking to early ;) She'll be tired out by December*

The two messages below, however, follow two hours later and prove actors' ability to converse comprehensibly despite time lapses. On 3 June 2004 at 07:22 *kingdoomy* posted the following message:

*NgaDef true but I'm sure someone will be around to remind us all of your little Sister's performances, and at this rate she'll be going all the way!!! ABTT rules!!!!!!*

In one of the messages in this thread, reference is made to the longest thread on the *African* category. The refereed thread is not captured in this dataset.

*have a look Dayo. African Awards. The longest thread ever on Africa Branch.*

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Seemingly, *NgaDef* and *Dayo* have developed a rather close relationship and might even know some personal detail about each other, which is possible from interactions over time resulting from continuous communication in a computer-mediated environment. This concurs with the view Field (2003:105) holds namely that there is no real basis for viewing online interaction and face-to-face relationships as incompatible. This is revealed in one of the replies in which *NgaDef* remarks: “She's my cyberspace little sis ;)”.

The second common thread between *NgaDef*, *Dayo* and *dysfunctional* has already been outlined in a sub-section above where the thread “More accolades [sic] Africa Branch!” is described. Interestingly enough there are no common threads between *dysfunctional* and *NgaDef*.

#### **4. Conclusion**

Social networks offer vast resources to its members. Examples cited include such tasks such as finding employment and the “old boys’ networks”. The Internet has, unquestionably offered exciting new possibilities for sharing information and communication, which perhaps helps to explain Field’s remark (2003: 93) that online interaction has expanded at a remarkable rate in recent years. This has been noted in Chapter Two as well, explaining the intense academic interest in cyberculture and attempts to understand the social effects of the Internet. Indeed, given the large number of people using online communication and the rapid spread of uses to which it has been put so far, it would be surprising if it had no effect. Briefly mentioned in Chapter One and explained in more detail in Chapter Two, writing extensively on social capital Putnam pays particular attention to the connections people make using the Internet. However, according to Field (2003: 96-97), Putnam is sceptical about the influence of the Internet, although it is accepted that the Internet does facilitate

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communication among people. Kendall (1999: 59) notes in particular how accessibility to the Internet influence people's participation in digital domains such as discussion boards, chatrooms and newsgroups.

Haythornthwaite (1996) notes that social network analysis is an approach and set of techniques to study the exchange of resources among actors. Moreover, regular patterns of information exchange reveal themselves as social networks, "with actors as nodes in the network and information exchange relationships as connectors between nodes" (323). Clearly, social network analysis derives structure empirically, as proven in this study. By using a one-mode network, the patterns that emerge reveal with whom actors such as *NgaDef*, *JayDawg*, and *dysfunctional* interact. It also, however, shows which threads received no replies, or actors who are unconnected. In total, 165 threads received no replies despite the fact that some of them have been viewed.

The maxim for social network analysis is relationships. Relationships indicate a connection between two or more actors. In this instance, a link is established by posting a message on an electronic bulletin board. In this instance, the relationship is characterised by the content, although the particular content to be examined depends on what is being studied. Moreover, by specifying direction, it is possible to determine the direction of communication among actors of the *Africa* category. Using the ego network of *NgaDef* as an example, it is possible to determine with whom communication took place.

Relying on the measurements associated with a two-mode network, the affiliation of actors to message threads is scrutinised. This gives a different perspective to the information exchange in this network. In particular, it shows the varied nature and extent of actor contributions to different threads on the *Africa* category. An important characteristic of the *Africa* category network is its low density and centrality.

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Furthermore, it confirms the suspicion after an initial analysis of the messages that ties are particularly weak. Friedkin states (1982: 273) that it is natural to assume that strong ties are more efficient contributors to information flows than weak ties. However, this does not suggest that the exchange of information *per se* is negligible. To the contrary, the importance of weak ties to the transmission of new information is a well-established fact among network analysts (Granovetter, 1973). This also concurs with what happens among travellers in the real world: strangers often exchange valuable information about destinations, attractions to see and dangers to avoid, amongst an array of other things without strong ties forming between them.

Furthermore, considering the most important actors, *NgaDef*, *Dayo* and *dysfunctional*, it is clear that closer ties exist between *NgaDef* and *Dayo* and that they have come to know each other quite well. This observation points at the *Thorn Tree* being a meeting place in cyberspace that also offers opportunities for people to develop relationships that could extend to face-to-face meetings in real life, as noticed by Kendall (1999: 59-60). Notably, Urry (2003) argues that increased connectivity in a networked society has led to a sharp increase in travel. Understanding how interactions in a digital domain function necessitates a greater understanding for the functioning of groups which in the case of the Internet suggests levels of income, education and inclination. In this regard Kendall (1999: 59-60) remarks that people's workplace situations, their use of computers for work and leisure activities, their various responsibilities and time constraints, and the availability of online access at work or at home constitute some of the more obvious connections between social organisations and online participation. These examples, for Kendall (1999) also point to connections between people's identities and social status and their access to online participation. Members of a group share some sense of belonging. This of course, distinguishes groups from mere aggregates of people (for example passengers who happen to be on the same flight) or categories

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in sociological terms that point at people who share a common feature such as being retired but otherwise do not act together (Schaefer and Lamm, 1998: 153).

Many individuals join computer-mediated social networks or interest groups voluntarily as is the case with the *Africa* category. As mentioned at the outset of this study in Chapter One, a number of aspects are not being investigated here.

Subsequently, no conclusion could be reached that concurs or differs with that of other scholars such as Putnam, Castells and Fukuyama regarding the profile of users. Information about individual actors on the *Thorn Tree* in this study's dataset is not reliable or available in order to reach any conclusions about Internet users and non-users.

In this study it is clear that actors of this forum not only provide opportunities to interact via text-based messages with one another in a digital domain, but the probability that face-to-face communication can take place between some members too. On the *Thorn Tree*, this is referred to as "piss-ups". On 4 June 2004 at 09:26 *Clottedcream* asked:

*WT Pissup Saturday 5th June*

*Whose attending this Glitterballs Pissup tomorrow?*

*I think Ngadef, Lumi and pijembe is I can make it now as well! Summer sun and beer.....perfect well apart from its in london!*

To this, *NgaDef* replied some half an hour later:

*Yes I'll be there. See you tomorrow*

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Clearly, the Internet not only provides avenues for socialisation in a digital domain, but also facilitates traditional interactions, i.e. face-to-face interactions. As such, it has far-reaching implications for social capital. While authors such as Putnam fear a decline of social capital as a result of television amongst other reasons, this study can claim without a doubt that a digital domain such as the *Thorn Tree* increases it. Moreover, it also facilitates traditional forms of interaction.

From this can be deduced that the Internet, as a network of computers spanning the globe, can facilitate the networking of people in traditional ways, i.e. face-to-face. This is perhaps welcomed by critics of electronic communication who question whether nonverbal communication, voice inflections and other forms of interpersonal interaction will be lost as people turn to email and other forms of electronic communication such as chatrooms. This brings into question a view held by some authors such as Fukuyama that the Internet erodes established relations. Castells (1996) claims that the technologies we associate with the Information Age have helped demolish the rigid identities of industrial modernism, based on class and nation, so that we now live in a network society where all kinds of contacts and values can be built into our sense of who we are. According to Castells (1996), the new technologies are central to this process of opening up the social space, for they provide unparalleled opportunities for linking disparate and scattered elements into a fluid but structured whole.

Although evidence on the relationship between social capital and online connectivity has been hard to come by, there is enough evidence to suggest that those who develop connections through the Internet are “neither devious individualists nor the shock troops of hypermodernity” (Field, 2003: 102). The communication between actors in this dataset, such as *NgaDef*, *dysfunctional*, *Pizza\_Wheel*, *JayDawg* and *Dayo*, among others, suggest that they have real world interactions too. The *Thorn Tree* offers merely another way for people to facilitate interactions albeit in a

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computer-mediated environment, thereby supplanting more traditional forms of communication such as face-to-face communication.

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