

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

Anonymity in Computer-Mediated Communication: A case study of groupware communication among Indonesian NGO activists

Yanuar Nugroho

Sahid University of Surakarta, Surakarta 57144, INDONESIA

ABSTRAK

Komunikasi interpersonal, seperti percakapan, mempunyai banyak pengandaian. Misalnya, partisipan perlu mengatur proses pertukaran informasi sesuai kemampuan mereka dan memahami kemampuan pihak lain berkomunikasi. Proses semacam ini dapat dipengaruhi oleh teknologi berbasis komputer yang didesain untuk mendukung komunikasi interpersonal. Satu aspek yang dapat dipengaruhi misalnya adalah identitas partisipan yang bisa dibuat anonim dengan membuang indikator sosialnya. Hasilnya adalah individu menjadi ter-deindividuasi selama proses komunikasi. Namun lebih lanjut, deindividuasi macam ini justru meningkatkan efektivitas komunikasi ketika melibatkan ketidakepakatan antar orang atau kelompok.

Tulisan ini membahas hasil penelitian eksperimental pengujian efek deindividuasi dari komunikasi anonim. Tujuan utama penelitian ini adalah untuk menciptakan dan menguji sebuah desain sistem komunikasi termediasi-komputer (CMC, computer-mediated communication). Eksperimen ini menggunakan dua konfigurasi GNU Mailman 2.0.6 sebagai milist manager untuk mengelola pertukaran pesan. Konteks eksperimen ini adalah komunikasi antar aktivis LSM di Indonesia yang sudah terbiasa menggunakan email. Dua kelompok partisipan yang berbeda menggunakan dua konfigurasi CMC selama dua minggu untuk mendiskusikan beberapa isu. Konfigurasi eksperimental menyembunyikan identitas seluruh partisipan (versi anonim) sementara konfigurasi kontrol menampilkan alamat email secara normal (versi teridentifikasi). Perilaku politik dan kesadaran akan identitas-diri dari kedua kelompok ini diamati sebelum dan sesudah periode diskusi.

Seusai eksperimen, didapati bahwa perubahan perilaku politik terjadi lebih besar pada kelompok anonim sedangkan kesadaran akan identitas-diri, meski dalam konteks berbeda, tetap kuat pada kedua kelompok. Analisis pembicaraan (conversation analysis) digunakan untuk menguji formalitas dan struktur pesan, termasuk aturan dalam pembicaraan, koherensi dan argumen. Teori-teori komunikasi dimanfaatkan untuk mengambil kesimpulan tentang desain CMC yang mendukung pencapaian konsensus.

Biodata

Yanuar Nugroho, seorang akademisi dan praktisi. Ia mengajar dan menjabat Direktur Akademik & Pengembangan di Universitas Sahid Surakarta, membimbing penelitian sarjana di Teknik Industri Universitas Trisakti, Jakarta. Ia Sekjen Uni Sosial Demokrat Jakarta dan Direktur *The Business Watch Indonesia*—dua LSM yang berbasis di Jakarta dan Solo. Ia banyak menulis mengenai persoalan globalisasi, teknologi dan ekonomi-politik bisnis di *The Jakarta Post*. Memperoleh Sarjana Teknik dari Teknik Industri ITB, 1994 dan *Master of Science* dalam *Information Systems Engineering* dari *Univeristy of Manchester Institute of Science and Technology* (UMIST), Inggris, 2001. Tulisan ini adalah intisari disertasi MSc-nya, menggabungkan rekayasa sistem informasi, psikologi komunikasi dan filsafat sosial.

"I should not like my writing to spare other people the trouble of thinking. But, if possible, to stimulate someone to thoughts of his own" (Ludvig Wittgenstein, 1953: Preface to **Philosophical Investigations**)

1. Introduction

Computer-mediated communication (CMC) has become an important tool for communication in the globalizing world where Internet technology has been emerging, connecting people to one another through computer networks.

This study concentrates on the idea of exploring the capacities of CMC that can be used to communicate information in new ways, i.e. implementing *anonymity* in it¹. An implementation of anonymous CMC then will be evaluated in terms of its effect on *communication behaviour*, among participants who belong to Non Governmental Organisations in Indonesia.

In anonymous communication, no one really knows who is stating what.² Those who value anonymity in communication believe that this condition reduces the likelihood that any one person will dominate communication. It is possible to anonymise CMC; that is, to use communication groupware, whether synchronous or asynchronous, that hides the writer's identity. Such a program was studied in the research reported here.

¹ As a contrast to ordinary CMC, which influences strongly the amount and kind of information cues available including the identity of participants, anonymisation works by hiding this identity of each participant and creating super-identity among them instead.

² When people communicate, they assume many things, such as *factual knowledge, linguistic competence, conceptual apparatus, and authority*. Computer-mediated communication (CMC) influences significantly the social cues of communicating participants. To some extent, the anonymity is hypothesised to help reaching conclusion or problem solution in consensus as well as decision making as the quality level of communication can be increased as a result of focusing on the topic instead on the communicator.

Thus, the *design approach used in the research was to deploy anonymity in asynchronous CMC groupware (specifically: by email) and experimentally evaluate its consequences for organisational communication behaviour.*³

2. Literature Review

2.1. Contexts of CMC

In the terms of the *FourSquare+* model⁴ of The Institute for the Future [IF DON-CIO, 1999] shown below, CMC would be in the 4th square (Different time – different place) as the study has aimed at.

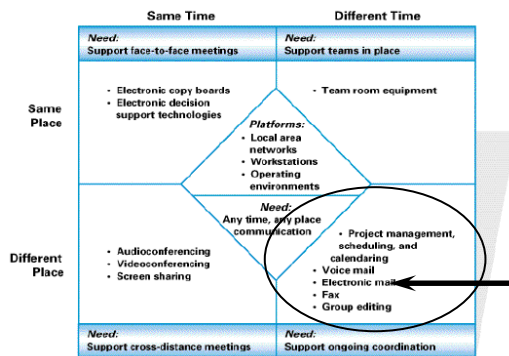


Figure 1. *Four Square+* Model.

The arrow shows the context for this research in the model adapted from [IF DON-CIO, 1999]

Experimental studies [e.g., Lea, 1991] have shown significant differences between CMC and non-electronic written communication relating to the degree of social presence and media richness⁵. Relevant to the social context of CMC⁶ are, *firstly*, the Social Identity model of Deindividuation Effects (SIDE) derived from Social Identity theory. This theory holds that the self encompasses a scope of possible social cues, ranging from individual identity to group identity [Spears, Lea & Postmes, 2000]. Anonymity, according to SIDE, would function to enhance a group's salience by reducing attention to individual differences within the group⁷.

2.2. Anonymity and Social Identity Processes

Theories like SIDE suggest why it is important that CMC, compared to other modes of communication, can increase the anonymity of its users. While one experiment has shown that anonymity could also lead to an increase of social influence within a group [Spears, Lea, & Lee, 1990], so deindividuation from anonymity does not necessarily lead to anti-normative behaviour. More generally, and to the contrary, deindividuation leads to increased *adherence* (devotion, obedience) to the group's norm⁸.

An explanation for these findings is offered by the Social Identity model of Deindividuation Effects (SIDE) [Spears, Lea & Postmes, 2000] referred to above. Social Identity theory stresses that the self encompasses a scope of possible social cues, ranging from individual identity to group identity ([Tajfel & Turner, 1986] in [Lea, Spears & de Groot, 2000])⁹.

The SIDE model further proposes that *when a social identity becomes salient, and the person identifies with the group, conformity to an internalised group norm will be strong*. This is particularly relevant in inter-group contexts on which a power relation is present between groups. [Spears, Lea & Postmes 2000]. It also suggests that anonymous CMC might generally equalise status and power differentials, something which logically occurs if cues to category membership themselves are eliminated. The salience of these cues is revealed in their effects on participants' communication behaviour, which are dependent in turn on the social context for communication. Thus, anonymity should not be treated as a unitary construct; it needs to be decomposed—in terms of anonymity of self vs. indentifiability to others. Additionally, it is important to investigate and elaborate the degree of anonymity [Spears, Lea & Postmes, 2000].

2.3. Structuration Theory in Communication

Structuration theory, established by sociologist Anthony Giddens, formulates a general theory of social action. The theory states that human action involves a process of producing and reproducing various social systems. Groups act according to rules to achieve their goals and in so doing create structures that come back to affect future actions. Structures like relational expectations, group roles and norms, communication networks and societal institutions both affect and are affected by social action [Giddens, 1980].

Based on Giddens' ideas, [Poole et al, 1989] develops a *structural theory of group decision-making*. The theory says that group members attempt to achieve convergence, or agreement, on a final decision. Individuals articulate their opinions and preferences and thereby produce and reproduce certain rules by which convergence can be achieved or blocked. In trying to achieve convergence, group members make use of Giddens' three elements of action—interpretation, morality and power. Interpretation is made possible through language, morality is established through group norms and power is achieved through the interpersonal power structures that have emerged in the group.

Structurational theories of group decision-making tend to focus on how outside factors influence the group's actions. Typically, they also

³ The email-based discussion is supported by *Mailist Manager*, which functions as mail-distributor. For the purpose of the study, *anonymity* and *context* will be set-up in this mailist-based discussion group to examine the communication behaviour among the communicants.

⁴ The CMC groupware model categorises the various forms of CMC, based on the dimensions of time and place of the group interaction.

⁵ *Social presence* is defined as the user's perception of the ability of the means of communication to assemble and focus the presence of communicating subjects, while *media richness* is the ability of the means of communication to interlink a variety of topics, render them less ambiguous, and enable users to learn about them within a given time-span. [Raudaskoski, 2000]. For further detailed reviews, Spears, Lea & Postmes have introduced a comprehensive definition of social presence and media richness [Spears, Lea & Postmes 2000].

⁶ The most important feature of synchronous CMC is its ability to provide a real-time link between communicators. Although the most frequently cited example is the video-conference [Raudaskoski, 2000], the most widespread system is in fact Internet Relay Chat, or IRC [Riva & Galimberti, 1997], a synchronous CMC enabling a group of users to exchange written messages and interact with each other in two different ways, by sending a message either to a specified user, or to all members of the chat.

⁷ It should be carefully noted that CMC in no way guarantees that a user's declared identity is the real one. The use of false identities, often of a different gender, is widespread in electronic communities [Spears & Lea, 1992]. Therefore to some extents, CMC creates an asymmetrical imbalance in the sender-receiver relationship, which means that the sender can transmit information and get cooperation under way, but has no guarantee that the receiver receives the transmission, while the

receiver has no guarantee that the sender's declared identity is the real one [Riva & Galimberti, 1997]

⁸ However, there is also evidence that anonymous CMC leads to increased social influence in line with group norms compared to FTF interaction of indentifiability [Spears, Lea & Lee, 1990].

⁹ A social identity is made salient partly in a social context, and can draw out from memberships of a group. Anonymity can strengthen group behaviour when the perceived social identity of the group is strong. It is the appropriate social identity, which allows anonymous group members to fully express behaviour according to the norms and rules of the social group they belong to.

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

hold that outside factors have meaning only insofar as they are understood and interpreted by the group – and these interpretations are negotiated through interaction within the group [Littlejohn, 1996: 295].

This suggests that a structurationist approach is particularly useful in intensive analysis of conversations in which a group of people has to reach a decision. The group and its norms and behaviour can be considered as the *structure* and the individuals within the group as sources of *agency*. Applying the structuration theory in communication, there is a chance to examine how agency produces and reproduces the structure, in terms of group's norms and behaviour, in reaching a decision. The decision development can subsequently be analysed as a result of interactions (dialectics) between agency and structure.

3. System Design for Investigation

3.1. High Level Design of the CMC Groupware

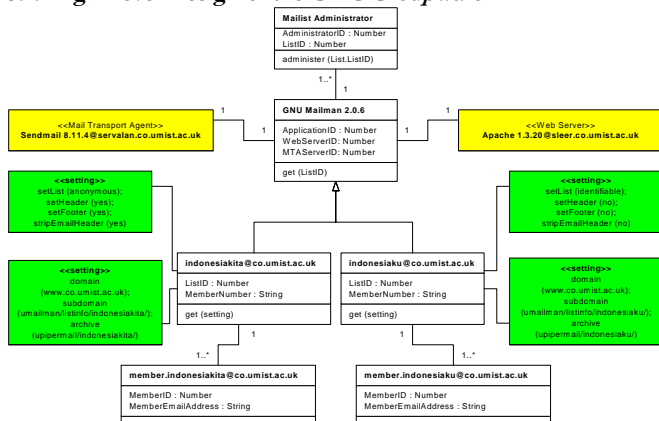


Figure 2. High Level Design of the CMC Groupware

3.2. Anonymisation Process

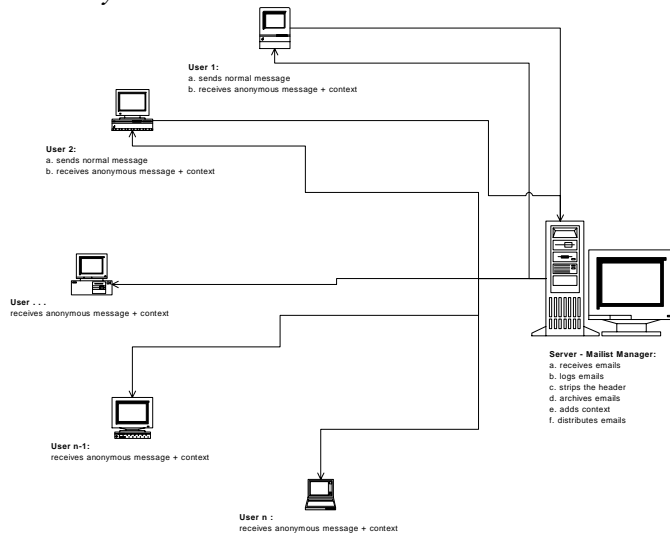


Figure 3. Anonymisation Process

3.2. Modifying and Manipulating for Anonymity

Anonymity was achieved by modifying and reconfiguring a chosen application, GNU Mailman 2.0.6¹⁰.

Indonesiakita (literally means, “our Indonesia”, indonesiakita@co.umist.ac.uk) and *Indonesiaku* (literally means, “my Indonesia”, indonesiaku@co.umist.ac.uk) were two mailists created using GNU Mailman 2.0.6 to investigate the effect of anonymity in CMC. *Indonesiaku* was created as an identifiable list, while *indonesiakita* was anonymous¹¹. The former was given the properties as a list usually has¹². The latter was made anonymous by stripping the email header and replacing it with an administrator email address. The message header and footer are set up as *context* by putting particular message as common shared-values among communicants.

3.3. Context Design

Normal email¹³ has the main parts mapped in the diagram below:

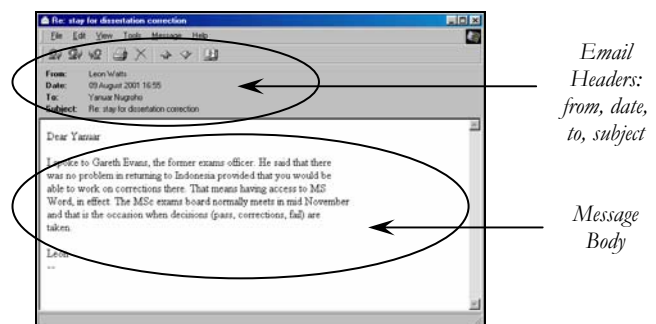


Figure 4. Topology of an Email

For the purpose of the study, there was a need to modify the setting of the email so that the anonymity effect could be examined. This was done, as depicted below:

¹⁰ GNU Mailman (later called Mailman) is free software, distributed under the GNU General Public License. The canonical Mailman home page is at www.gnu.org/software/mailman/mailman.html, with more information available at www.list.org. Mailman provides each mailist a unique web page and allows users to subscribe, unsubscribe, and change their account options over the web. Moreover, the list manager can administer his/her list entirely via the web. Mailman has most of the features that is needed in a mailist management system, such as including built-in archiving, mail-to-news gateways, spam filters, bounce detection and digest delivery. Mailman is written in the Python scripting language, with few C code for security [Manheimer, et al, 1998]

¹¹ Members are added to the list. The membership is mutually exclusive that means no member in *indonesiaku* is also a member in *indonesiakita*. This is done for the particular purpose to compare the effect resulted by different CMC mode.

¹² A slight difference was that the footer is deleted; in most lists, the footer explains how the user can leave the list.

¹³ An ordinary email usually consists of two main parts, i.e. email headers and message body. The headers contain the information about the sender, sending timestamp, recipient(s) and subject of the email. The message body is just simply the main part.

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

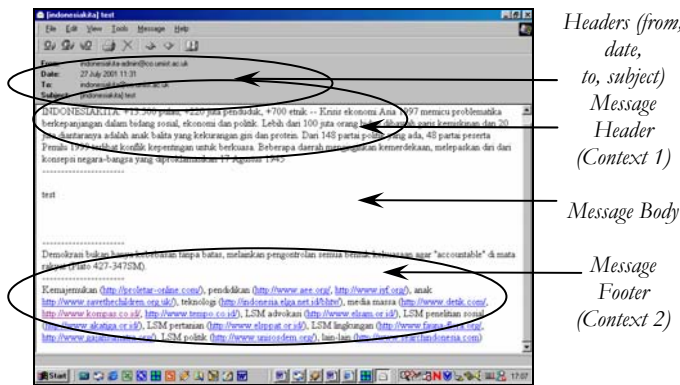


Figure 5. A Desired Topology of the Email for the purpose of this study

4. Experimental Evaluation

4.1. Overall Test Context¹⁴

Before the effects of this test can be evaluated, some additional context is necessary. The **first** context is the situation in Indonesia while the test was being conducted, the socio-political¹⁵. The **second** context is the participants, who were mainly NGO workers whose jobs were very much influenced by general socio-political problems.

The participants were strongly involved in social-related activities¹⁶. All (100%) of the participants¹⁷ had been involved in social movements in some form, mainly when they were students. When the test was being carried out, most of them (70%) were still deeply occupied in NGO movements as their daily activities and full-time jobs. The rest (30%) were only partially involved, due to their main job. However, those can also be seen as “social-related” jobs, such as lecturing, being editor in newspaper and magazines, serving public wealth, etc.

4.2. Test Goal and Hypotheses

The test aimed to examine the effects of deindividuation in mailing list groups. The outcome observed was communication behaviour, particularly in reaching consensus. In other words, the goal was to focus on *how the absence of cues for individual identity affected communication*. In relation to this goal, the following hypotheses were developed:

H₁ : opinion change would be **greater** in the anonymous group than in the identifiable group.

As opposed to H₀ that opinion change would be **equal** in both the anonymous and the identifiable group.

H₂ : the sense of group identity would be **greater** in the anonymous group than in the identifiable group

¹⁴ The testing was designed to observe the effect of the deindividuation in anonymous collaborative CMC Groupware. The test had taken place in a particular context among certain participants from various organisations in Indonesia, in which the communication was mediated by email discussion list.

¹⁵ It is clearly certain and showing that any organisational contexts cannot be separated from national contexts

¹⁶ Although not easy to measure, the participants all, to a certain extent, have social awareness. More particularly, the participants were not ignorant to the social dynamics and the social issues in both local and national scope.

¹⁷ I have to state clearly that all of the participants were chosen on purpose; firstly because I wanted to focus the study on particular groups of certain people interacting in specific ways and it simply brought me to the second reason that it would have been impossible to pursue this issue through what is statistically called “random sampling”.

As opposed to H₀ that group identity would be **equal** in both the anonymous and the identifiable group

4.3. Method

Design consisted of two levels of a variable “identifiability” which were examined in an independent measures design, as follows.

Participants

When the numbers of participants were still 30, there had been a distribution of participants to make up two groups in which each was as equal and identical as possible—I used my subjectivity and my understanding of the participants background to equally distribute them into 2 groups and thus determined who belonged to which group. This clearly meant that those 30 participants were then equally distributed into two identical groups. A number of 15 participants were allocated to belong to the identifiable discussion group, indonesiaku@co.umist.ac.uk and so were the other 15, to the anonymous discussion group, indonesiakita@co.umist.ac.uk.

However, by 3 August 2001, the test were started and unfortunately only 21 participants took part, wherein 12 were initially allocated to the anonymous group and 9 were in the identifiable one. There could not be any re-distribution among participants, e.g. to make both group equally populated, as it would have changed the established procedure.

Materials

The study used a reconfigured GNU Mailman 2.0.6 –installed in a server, focussed to set-up anonymisation, to create super identity and to put the context as email header and footer in anonymized discussion group only—, set of documents and questionnaires of political attitudes and self-identity, responded by participants before and after the test—each item of the questionnaire was responded and analysed using *student-t* statistic test. Another material used is analytical Pack Toolkit (add-ins) for Microsoft ExcelTM to analyse the data gained from the test, using *t-test* statistical tool, to observe the effect of anonymity in collaborative CMC groupware.

4.4. Results

4.4.1. Questionnaire Results (Quantitative)

Opinion Change in Political Attitude

Being split into two groups, the participants relatively had the similar political attitude and it did not differentiate the anonymous discussion group from the identifiable one. In one hand, this supports the subjective judgments when intentionally involving the participants into the test as the participants had been deliberately chosen from various institutions with different orientation and affiliation. Yet, this shows that they had similar interest domain, i.e. socio-political concerns. On the other hand, it explains that the items in the Political Attitude Questionnaire might not be sensitive enough in terms of group differentiating.

Opinion Change in Self Identity

The result shows that before the discussion was conducted, the members in anonymous group did not identify themselves with the group. The initial information from the administrator explaining who the members were was not enough to create the group identity feeling among them. This is quite different with what took place in the identifiable group. Since the initial stage of the discussion, when the administrator had informed the participants, the group identity feeling was formed.

It might be concluded, that in the beginning of communication process, losing the social cues had somewhat lowered the feeling of togetherness. In addition, it also increased the uncertainty effect of the communication environment because someone could not know exactly to whom s/he would communicate.

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

Apart from the identification issue, both groups did not differ in their ratings for the rest of the items before and after the test. This implies two possibilities. First, that the opinion changes in self identity questionnaire were possibly achieved by both groups in the similar movement. Second, that there was already such 'shaped' identity of the participants that could not be affected by the group membership during the test period.

Addressing the issue of *Group Identity*, there was a large effect of anonymized discussion of particular item, i.e. *regarding the importance to show solidarity by going along with the general view of the group*, with the group strongly agreeing before the test shifted into extreme disagreement after the test.

However, in the identifiable discussion group, responding the same issue resulted different outcomes in three particular issues. Before the discussion they quite agreed to statements of *seeing themselves as a part of the discussion group, feeling solidarity with the group, and regarding the importance to show solidarity by going along with the general view of the group*. Yet after the discussion their opinion changed slightly to the statement.

The matter of *Organisation Identity* was affected by the anonymized discussions. All of those three specific issues showed how the anonymisation changed the opinion of the group. Responding the *commitment to the organisation where the participants worked, how participants were presenting themselves as representatives of the organisation they worked for, and the subjects were aware of themselves as representatives of the organisations they worked for*, the agreement dropped from the condition before the test and after the test.

In contrast, apparently, in the identifiable discussion group the opinion change for Organisation Identity issue did not take place. The groups did not differ in their ratings before the test and after the test which explains that they generally neither agree nor disagree with the statements.

4.4.2. Conversation Analysis Results (Qualitative)

Despite the depth and the scope, several qualitative analyses are to be presented to broaden the perspective of the evaluation and deepen the reflection. However, within the time limit of the study, it is most unlikely to have a real comprehensive qualitative examination on the messages exchanged.

Conversation Analysis

The scope in conversation analysis, although huge and vast, will be concentrated on *conversational maxims, conversational coherence* and *conversational argument*. [Grice, 1975].

Conversational Maxims, It rarely happened during the test period that participants' contributions were sufficient, but not too much information. What emerged most were the facts that participants' comment was either/both too brief or/and too verbose. This applied to both groups, anonymized and identifiable.

The results of the specific item in Self Identity post-test questionnaire addressing the contribution truthfulness (item "*The views I expressed during the discussions were my true views?*"), showed that both group generally in agreement to that statement, which somewhat supports the maxim.

From the scripts of the message exchanges, apparently it happened that in some moments during the experiment, irrelevant comments took place in the anonymous group. Oppositely, it did not happen in the identifiable one.

Although there was no explicit evidences that the participants should not be obscure, ambiguous or disorganised, in general, the discussions

took place in the anonymous group was much less formal than those of the identifiable group.

Conversational Coherence (*connectedness* and *meaningfulness* in conversation) seems well structured and sensible to the participants. Coherence is normally taken for granted, yet the production of coherence is complex and not altogether understood.

When coherency is assessed by its *structure* and *sensibility* to the participants, in the identifiable group the messages were relatively more organised and structured rather than messages in the anonymized group. In terms of *formality*, the messages in the anonymous group were less formal than they were in the identifiable one. It should be noted in addition, that although normally taken for granted, the production of coherence is complex and not altogether understood. Thus the notion of *sensibility* in coherence becomes now relevant to discuss.

Having less structured messages in the anonymized discussion group did not affect the focus of the conversation on the topics. Even, the fact shows that there was much more message exchanges in the anonymous group rather than in the identifiable one. Some were just short, responding particular issue addressed by other anonymous member(s). If only the sensibility did not take place in the anonymized group, there would have never been such intense message exchanging.

Conversational Argument, is a method of managing disagreement so that it is minimised and agreement is achieved as quickly as possible [O'Keefe, 1977]. During the experiment in the study, the disagreement level in the identifiable group was very low. At least, the disagreement was not explicitly stated or it was stated politely. The disagreement was not aggressive. Oppositely in the anonymized group, the disagreement on the topics discussed was quite high –indicated by the content of message exchanges. Many times, the disagreement became very deep, yet did not ignite the conflict among members.

Content Analysis

From the perspective of Speech-Act Theory [Austin, 1962, and Searle, 1969] in terms of *directionegrees of fit* between the speech act and the reality, some points might be drawn.

In almost all message exchanges during the discussions, the members of the two groups strongly showed their assertives. In the anonymous group, criticisms did take place quite intensely, assessing other members' opinions or view –and to some extent, it could also be inferred that sometimes it was addressed emotionally¹⁸. In contrast, although the identifiable group also showed their assertives, the explicit criticism did not seem to take place.

Directives and commissives did not explicitly occur in both groups in terms of *instruction*, except the request to reach the consensus. In fact, one message in the identifiable group repeated the request to come into group's consensus and asked the other members to react. Indeed, there were some messages with requests or suggestions to lead the discussion to some particular topics, done explicitly (by replying and explicitly directing to the new issues) or implicitly (by replying or commenting and redirecting the replies and comments to other topics) in both groups.

Expressives was not explicitly shown in the identifiable group, but it was quite intensive in the anonymous group. These phenomena took place mainly with criticisms. It could also be noted that expressives happened when the criticism was addressing specific critical certain issues. Indeed, the discussion aimed to exchange the idea and reach the

¹⁸ Another term, **flaming**, which expresses emotion during conversation, can actually be used. One of the ways indicating *flaming* is the usage of characters like "?????" or "!!!" or explicit wordings.

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

consensus. Thus, whether it brought about a correspondence between the propositional content of the statement and reality was obvious due to the background of the participants.

From *structural theory of group decision making* I used Giddens' three elements of action—*interpretation, morality and power*.

Interpretation is made possible through language. The discussions were of the same domain of discourse, which was convinced by the relatively homogenous membership of both groups in terms of their self identification as part of the-so-called "*pro-democracy movement*". Thus, the interpretation was to take place within this domain. Indeed and of course, the interpretation as part of the 'knowledge' was not monolithic, due to the variety nature of the organisations the participants worked for. However, the divergence in interpretation could be reasonably reduced. The conversations during the discussion showed that the communication breakdown or misunderstanding—as a common feature of misinterpretation—did not take place, even in the anonymous group.

Morality is established through group norms. In identifiable group, it was obvious that when one participant communicated, the social cues could not be hidden. Just in contrary, the members in anonymized group lost their personal identities as social cues; instead, being in a group "*indonesiakita*" has created *super identity*. The group norm had never been forced externally, yet the groups did not subjectively differ in admitting the communication norms, such as avoiding sarcastic, humiliating, etc.

Power is achieved through the interpersonal power structures that have emerged in the group. Although there was no certain and objectively clear indicator of the effect of power, the discussions took place in anonymized group were conducted more openly, less formal compared to ones in identifiable group. To some extent, the anonymisation was claimed to affect the power structures in the group.

According to [Hogg, 1992] and [Festinger et al, 1950], in practice, group cohesiveness as a psychological concept refers mainly to members' attraction to the group, which in turn is predominantly considered in terms of group members' liking for one another. Two different forms of interindividual attitude, or attraction, are identified as *Social Attraction*, an interindividual attitude that is depersonalised in terms of group prototypes and generated—along with other distinctive intra- and inter-group behaviours—by self-categorisation, and *Personal Attraction*, an interindividual attitude that is personalised in terms of unique properties of individuals and close interpersonal relationships.

More precisely, [Hogg, 1992: 108-109] states that only social attraction relates to group solidarity and cohesiveness. In anonymous discussion, although the members were generally in disagree to questionnaire item in *showing solidarity by going along with the general views of the group*, they responded quite oppositely on *solidarity with the group*. The similar findings took place in the identifiable group, with a disagreement toward particular form of solidarity and agreement toward general solidarity accordingly. Thus, it seemed that during the test period, when the solidarity was associated with the more particularities, the more the group would be in disagreement toward solidarity itself.

5. Discussion

5.1. Deindividuation Effect on Political Attitude

With regard to the political attitude change that might have taken place in either group, it seems that the political attitude questionnaire may not have been broad enough to include the topics really relevant to this issue. It is also possible that the time involved in the experiment was not enough to let the discussion go deeper and touch the fundamental grounds of the topic.

For the group which was not anonymized, the student t-test shows that there was no opinion change in political attitude questionnaire

before and after the identifiable discussion was conducted for all items.

It cannot be concluded from this fact that the identifiable discussion did not support participants' opinion change. Apart from the statistical outcomes, just like in the anonymous group, there might be two possibilities—i.e. the items covered in the questionnaire that was not broad enough and/or the time limitation that did not give chance for more fundamental debates—that could take place. However, the message exchanges in the identifiable group were much less that they were in anonymous group. So, the anonymisation might encourage message-exchanging among communicants.

5.2. Deindividuation Effect on the Sense of Self Identity

These abovementioned results confirm that, in this experiment, anonymity affected the sense of group identity, particularly because it decreased significantly the importance of showing solidarity to the group by going along with the general view of the group. However, there should be a careful examination of this point, for it entails two different things: *solidarity* itself and the action of *going along with the general view of the group*.

From the **structuration theory** point of view [Giddens, 1984], this is consistent with the idea that a participant, as an agent, does not necessarily have to admit and reproduce what the structure (in this case, the norm of solidarity by simply agreeing the group view) expects. Anonymity, on this view, empowers an agent to decide subjectively and not simply agree, and thus reproduce, the structure.

The observations on organisation identity items suggest that, during the experiment, anonymisation detached the subjects from some of their attributes, such as organisation affiliation. The identifiable group responded that there was no distinct opinion change of their members. Neither they agreed nor did they disagree with the statements.

In other words, being anonymous had, to some extent, reduced the member's sense of being a representative of the organization when communicating. At the same time, it increased the individual's independence *from* the organisation, independently expressing an idea without any organisational influence¹⁹.

6. Conclusions & Implications

6.1. Conclusions

From what has been presented, the conclusions see that:

In the area of anonymisation effect in **Political Attitude**, the null hypothesis was not rejected. However, there is a fact that the participants relatively had the similar interest in socio-political concerns. The items in the Political Attitude Questionnaire were not sensitive and broad enough in terms of group differentiating and including the relevant items to the topics. This caused the difficulty to see the effect of the anonymity in the opinion change, taken into account that the subjects were aware of the issues and had certain "stand-point" for them. There was possibility that the time for experiment was not enough to let the discussion go deeper to touch the fundamental grounds of the topics.

In the area of Anonymisation Effect in the sense of **Group Identity**, the null hypothesis was rejected, although it still implies two possibilities: (a) the opinion change in self identity questionnaire were possibly achieved by both groups in the similar movement and (b)

¹⁹ From **political science** point of view, it can be simply said that anonymity increases the possibility to gain the-so-called "negative freedom" in order to achieve "positive freedom" as **Isaiah Berlin** has mentioned in his writing, *Two Concepts of Liberty* [Berlin, 1969]

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

there was already such 'shaped' identity of the participants that could not be affected by the group membership during the test period. Loosing the social cues had somewhat lowered the feeling of togetherness. It also increased the uncertainty effect of the communication environment because someone could not know exactly to whom s/he would communicate.

The anonymity affected the sense of group identity and also particularly increased the possibility to act differently from what has been commonly accepted (see "*solidarity*"). Being anonymous had, to some extent, reduced the *representativeness* of the member when communicating and at the same time increased the individual's independency *from* the organisation identification *for* independently expressing the idea without any organisational influence. The idea is called "flattening" or "levelling".

In the area of Anonymity Effect, examined using **Content Analysis**, anonymisation increased criticisms quite intensely, assessing other members' opinions or view, communication breakdown—as a common feature of misinterpretation—did not take place in anonymous discussion, anonymity did not negatively affect the communication norms, such as causing sarcastic, humiliating, etc, the discussions took place in anonymized group were conducted more openly, less formal compared to ones in identifiable group. To some extent, the anonymisation was claimed to affect the power structures in the group, during the experiment, when the **solidarity** (as group cohesiveness indicator) was associated with the more particularities, the more the group would be in disagreement toward solidarity itself.

However, the question remains as to 'what extent has the study of the deindividuation effect of anonymising via CMC addressed the problem' discussed in the introductory part. In the following, I try to go further:

First, these conclusions are deduced from a single experiment²⁰ and should be distinguished—at least analytically—from a general truth²¹.

Secondly, however, even the limited results suggest that anonymisation contributes to *democratic communication* in suggesting **how** communication should be conducted. [Habermas, 1987] has indicated that the way people communicate each other should be freed from attributes like status, authority, seniority, privilege, etc. Anonymisation may be powerful in promoting this kind of communication.

Thirdly, the anonymisation may have a role in *ideal communication* by helping to focus **what** is being communicated. Again [Habermas, 1987] noted that the ideal communication is based upon rational agreement, achieved either through actual dialogue or through other legitimate and overt means of achieving shared understanding.

If the third proposition focuses on **what** is being communicated rather than on **who** is communicating, the second proposition suggests one way to achieve this effect. Together, they answer main questions raised in the introduction, whether CMC can deliberately affect consensus and decision making processes.

6.2. Implications

I would like to argue for at least two parallel implications. First, regarding *democratic communication*, pulling out the social cues—e.g. attributes like power, status, authority, seniority, privilege, etc—from the communicants can mean they become more equal. Communication that is more democratic is less likely to be burdened by *power* or *structure*. This leads to a second implication, for any *democratisation project* through communication means. Democratic

communication is arguably at the centre of any democratisation project, in which a key issue will be making **what** is being communicated more important than **who** is communicating it.

Reaching a stage of such social conclusion means this is an interdisciplinary study. Still, I would like to move a bit further, drawing attention to where anonymisation could loose its bright side and instead become a drawback. This occurs **when** it is pulled blindly out of the discourse.

In one hand, the anonymisation can turn every participant into a real subject (agent), outside of the structure²². The act of flattening (levelling) status through anonymisation is an act of abstracting from an *empirical agency* into a more *universal agency* (using Giddens' terminology), a concrete agent with all its attributes being emptied of some hierarchical contents. Habermas calls this situation the "ideal speech situation," which should be the starting point as well as a regular feature of democratic communication [Habermas, 1987]. In short, anonymising can be a strategic act of neutralising the hierarchical nature of power in social life.

On the other hand, it should be admitted that this levelling takes place at the level of *discourse*, which should be distinguished (at least analytically) from the level of *materiality*. How can mistaking discourse for material reality be a danger? The political economy tradition, with its neo-classical conception of 'market' and 'consumership', precisely turn 'discourse' into a 'material' fact²³, the fatal leap from 'discourse' to 'materiality'.

My study of achieving anonymisation via CMC has value not only in the discourse or study level. It is also of benefit to understanding the communication process itself in general, if a broad perspective is taken. I believe that not only does the study employ a comprehensive perspective, but it also leads to an extensive discourse with social science, given its focus on the communication among NGO activists.

Examining the deindividuation effect in CMC indeed has brought me into an "intellectual adventure" rather than merely an "intellectual observation". Starting from the issue of anonymity in CMC and going to the sociality of communication led me to closely follow the process of epistemological discourse in the social science. The implications that I drew now leave me with a puzzle. And I cannot help having an intuition that the key to understand that puzzle seems to be the issue of 'power'.

At the end of this study, I remember a line I read in one of Baudrillard writings, *The Illusion of The End*, that "...the problem about speaking the end is that we have to speak of what lies beyond the end and also, at the same time, of the impossibility of ending." (Baudrillard, 1994: p. 110) About this I am sure he is correct.

References

[Austin, 1962] J.L. Austin; **How To Do Things With Words**. The William James Lectures delivered at Harvard University in 1955. Second edition. Edited by J. O. Urmson and Marina Sbisa. Cambridge, Massachusetts: Harvard University Press, 1975. First published in 1962 as in [Halton, 1989], pp.151

²² So, anonymisation is perhaps the most potent weapon on the part of agency in its battle (if there is any) against structure. That is why, contra totalitarianism and authoritarianism, an ism called 'liberalism' is indeed a virtue (here comes the discourse of human rights).

²³ That is why there is a say, "Because every human being is equal; the terms 'consumer' and 'market' precisely follow that logic of equalising". This *generalisation* hides the *empirical nature* that human being is **not** equal, especially when **power** is involved.

²⁰ or at the level of "*discourse*" (i.e. experimental, limited)

²¹ or, the level of "*materiality*" (i.e. real, corporeality, general)

This is author's version before publication. Please refer to journal's version for citation because the page numbering here does not indicate the actual one on the journal's version.

- [Anderson, 2001] Heidi V. Anderson; **Follow The Leader: Email's Big Wins & How It's driving The Development of New Technology**, *Maximise PC Performance*, Vol. 9, Issue 7, July 2001, pp. 99-103
- [Baudrillard, 1994] Jean Baudrillard; **The Illusion of The End**, Cambridge: Polity Press, 1994, pp. 110
- [Berlin, 1969] Isaiah Berlin; **Two Concepts of Liberty**, in *Four Essays on Liberty* Oxford, 1969
- [Bowers, 1992] John Bowers, **The Politics of Formalism** as in [Lea, 1992] pp. 258, 1992
- [Dix et al, 1993] A. Dix, J. Finlay, G. Abowd & R. Beale; **Human-Computer Interaction**. New York: Prentice Hall, 1993 as in [Riva & Galimberti, 1997]
- [Ellis and Donohue, 1986] Donald G. Ellis and William A. Donohue (eds.) **Contemporary Issues in Language and Discourse Process**, Hillsdale, Erlbaum, New Jersey, 1986)
- [Festinger et al, 1950] L. Festinger, S. Schachter and K. Black; **Social Pressures in Informal Group**, Harper and Row, New York, 1950.
- [Garfinkel, 1967] Harold Garfinkel; **Studies in Ethnomethodology**, Englewood, Cliffs, Prentice Hall, New Jersey, 1967
- [Giddens, 1984] Anthony Giddens, **The Constitution of Society**, Polity Press, 1984
- [Grice, 1975] H. Paul Grice; **Logic and Conversation**, in *Syntax and Semantics*, vol. 3, eds. P. Cole and J. Morgan, Academic Press, New York, 1975, pp. 41-58
- [Habermas, 1987] Jurgen Habermas; **The Theory of Communicative Action : Lifeworld and System : A Critique of Functionalist Reason**, Polity Press, Cambridge, 1987
- [Halton, 1989] Kevin Joseph Halton; **Deconstruction and Speech Act Theory: A Defence of the Distinction between Normal and Parasitic Speech Acts**, Thesis, 2001, available online at <http://www.e-anglais.com/thesis.html#2.2>
- [Hassell, 1988] Lewis Hassell; **Media, Speech Act Theory and Computer Supported Cooperative Work**, in "Literature Review" section of MA Dissertation, University of Drexel, 1988, available online at <http://faculty.cis.drexel.edu/~hassell/diss/Ch2.htm>
- [Herring, 1996] C. Herring (ed); **Computer-Mediated Communication**, John Benjamins, Amsterdam, 1996 pp. 29-46
- [Hogg, 1992] Michael A. Hogg, **The Social Psychology of Group Cohesiveness: From Attraction to Social Identity**, Harvester Wheatsheaf, 1992
- [IF-DON CIO, 1999] The Institute for the Future, Department of the Navy Chief Information Officer (DON CIO) of USA, **Information Technology Standards Guidance**, Version 99-1 5, Chapter 9, April 1999, available online at: <http://www.doncio.navy.mil/training/ools/itsg/chapter9.html>
- [Jacobs, 1986] Scott Jacobs; **Recent Advances in Discourse Analysis**, *Quarterly Journal of Speech* 66 , Hillsdale, New Jersey, 1980, pp. 450-472.
- [Kersten 1996] Gregory E. Kersten; **Support for Group Decision and Negotiations – An Overview**, The Centre for Computer-Assisted Management, 1996, available online at http://www.iiasa.ac.at/Research/DAS/interreg/research/misc/intro_gdn.html
- [Kiesler, Siegel & McGuire, 1984] S. Kiesler, J. Siegel & T.W.McGuire; **Social Psychological Aspects of Computer-Mediated Communication**. *American Psychologist*, 1984, pp. 1123-1134, 1984 as in [Sakhel, 2000]
- [Kolar, 2001] Christopher Kolar; **GNU Mailman Documentation**, Aurora University, April 2001, available online at <http://www.aurora.edu/~ckolar/mailman/>
- [Lea, 1991] Martin Lea, **Rationalist Assumptions in Cross Media comparisons of Computer-Mediated Communication**. *Psychology Journal, Behavior and Information Technology*, 10 (2), 153-172, 1991 as in [Riva & Galimberti, 1997]
- [Lea, 1992] Lea, Martin; **Contexts of Computer Mediated Communication**, Harvester Wheatsheaf Publisher, Hertfordshire, UK, 1992. ISBN 0-7450-1068-7
- [Lea, Spears & deGroot, 2000] **Knowing Me, Knowing You – Anonymity Effects on Social Identity Process within Groups**, in press *Personality and Social Psychology Bulletin*, 2000
- [Littlejohn, 1996] Stephen W. Littlejohn, **Theories in Human Communication**, Wadsworth, pp. 84-101, 250-298, 1996
- [Manheimer, et al, 1998] Ken Manheimer, Barry Warsaw and John Viegas; **Mailman – An Extensible Mailing List Manager Using Python**, *Proceedings of the 7th International Python Conference*, Houston, Texas, 10-13 November 1998
- [Mantovani, 1996] G. Mantovani, **New Communication Environments: From Everyday to Virtual**. London: Taylor & Francis as in [Riva & Galimberti, 1997]
- [McLaughlin, 1984] Margaret L. McLaughlin, **Conversation: How Talk Is Organised** Beverly Hills, Sage, California, 1984
- [O'Keefe, 1977] Daniel J. O'Keefe; **Two Concepts of Arguments**, *Journal of the American Forensic Association* 13, 1977, pp. 121-128.
- [Pamberton and Shurville, 2000] Pamberton, Lyn and Shurville, Simon; (ed.) **Words on the Web: Computer Mediated Communication**, Intellect Publisher, Exeter, UK, 2000. ISBN 1-871516-56-0
- [Poole et al, 1985] Marshal S. Poole, David R. Seibold and Robert D. McPhee; **Group Decision Making as A Structural Process**, *Quarterly Journal of Speech* 71 as also in *Communication Yearbook 16*, Newbury Park, California, 1985, pp. 615-622
- [Postmes, 1997] T.T. Postmes; **Social Influence in Computer-Mediated Groups**. Phd Thesis, University of Amsterdam, 1997
- [Riva & Galimberti, 1997] Giuseppe Riva and Carlo Galimberti, **The Psychology of Cyberspace – A Socio Cognitive Framework to Computer-Mediated Communication**, originally published by the journal *New Ideas in Psychology*, 15(2), pp.141-158, Elsevier Science Ltd., 1997, and available online at <http://www.psicologia.net/pages/cyber.htm>
- [Raudaskoski, 2000] Pirkko Raudaskoski, **The Use of Communicative Resources in Internet Video Conferencing**, as in [Pemberton & Shurville], 2000
- [Rice, 1992] Ronald Rice, **Context of Research on Organisational CMC** as in [Lea, 1992] pp. 121, 1992
- [Sakhel, 2000] Khaled Sakhel, **Normative Influence and Emotionality in Computer-Mediated Groups**, electronic paper, available at <http://pedanet.jyu.fi/cato/calive/sakhel.html>
- [Searle, 1969] J.R. Searle; **Speech Acts: An Essay in the Philosophy of Language**, Cambridge, 1969
- [Shimanoff, 1980] Susan B. Shimanoff; **Communication Rules: Theory and Research**, Beverly Hills, Sage - California, 1980, pp. 31-32
- [Spears & Lea, 1992] R. Spears & M. Lea, **Social Influence and The Influence of the 'Social' in Computer-Mediated Communication** as in [Lea, 1992] pp. 30-65, 1992
- [Spears, Lea & Lee, 1990] R. Spears, M. Lea, & S. Lee; **Deindividuation and Group Polarisation in Computer-Mediated Communication**, *British Journal of Social Psychology*, 29, 121-134, 1990 as in [Sakhel, 2000]
- [Spears, Lea & Postmes, 2000] **Social Psychological Theories of Computer-Mediated Communication : Social Pain or Social Gain?**, to appear in W.P. Robinson and H. Giles (eds), **The Handbook of Language and Social Psychology (2nd ed)**, Chichester, Wiley, 2000
- [Taylor, in Pemberton & Shurville, 2000] Jacqueline Taylor, **Electronic Mail, Communication and Social Identity: A Social Psychological Analysis of Computer-Mediated Group Interaction**, as in [Pemberton & Shurville, 2000], 2000
- [Turban & Aronson, 1995] Efraim Turban and Jaye Aronson, **Decision Support Systems and Intelligent Systems**, Prentice Hall International, 1995
- [Winograd & Flores, 1986] Terry Winograd & Fernando Flores; **Understanding Computers and Cognition: A New Foundation for Design**, Alex Publishing, Addison Wesley, 1986
- [Wittgenstein, 1953] Ludwig Wittgenstein; **Philosophical Investigations**, Oxford, Eng.: Basil Blackwell, 1953
- [Yates, 1996] S. Yates; **Oral and Written Linguistic Aspects of Computer Conferencing: A Corpus Based Study** as in [Herring, 1996], 1996
