

Simulating the Implementation of the Administrative Justice Act with ThinkLets and GroupSystems: A Comparative Analysis from Three Field Studies

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ABSTRACT

We present in this paper the results of three simulation exercises performed as part of a series of field studies whose object is the implementation of the Promotion of Administrative Justice Act. The unit of analysis of the study is the process facilitation, which, in the context of the field studies and the research design, took the form of AJA awareness-raising workshops and the use of a Group Support System (GSS) tool. The notion of a thinkLet was used as a basis for conducting the simulation exercises using GroupSystems. Each workshop, which included the GroupSystems simulation exercise, was treated as a single case. These guidelines are effectively used throughout the course of this study and to analyse the results of the simulations. The results presented here constitute a one-year milestone in a longitudinal project led by the second author.

Key words

Decision Theory, Decision Justification, Administrative Justice Act, Group Support Systems, Simulation, ThinkLets

INTRODUCTION

The work reported on in this paper forms part of a longitudinal Interpretive Information Systems (IS) study that is to span a period of six years, this being the second. Its background is underpinned by a doctoral study conducted by the second author entitled 'an analysis of group decision justification and its implications for GSS use and design ideals', whose completion coincided with the bringing into effect of Section 33 of the South African Constitution. The Section required the government to pass a law setting out the details of the right of everyone in South Africa to just administrative action. This law was passed in the year 2000 as the Promotion of Administrative Justice Act (AJA) (3 of 2000). The AJA sets out procedures that administrators must follow before taking a decision and afterwards. The procedures apply to all organs of state, arguably including Tertiary Education Institutions, for example decisions related to student admissions, employment and labour-related issues, to mention but a few.

The steps prescribed by the AJA were found to be intriguing and attractive to research from decision-theoretic and Information Systems points of views. Furthermore, there were striking similarities between what Phahlamohlaka (2003) called 'prerequisites of decision justification' and the steps prescribed by the AJA process. It is not our intention in this paper to focus on theoretical aspects, but Figure 1 provides a high-level picture that serves as a theoretical basis for the study. After going through the rest of the paper, the reader may be interested in comparing the components of this framework with the thinking behind the AJA as well as the steps it prescribes. It was these procedures, their close relationship to the logic of decision justification and how their implementation could best be supported through the use of computer-based technology, that the second author identified as areas of importance, interest and further study

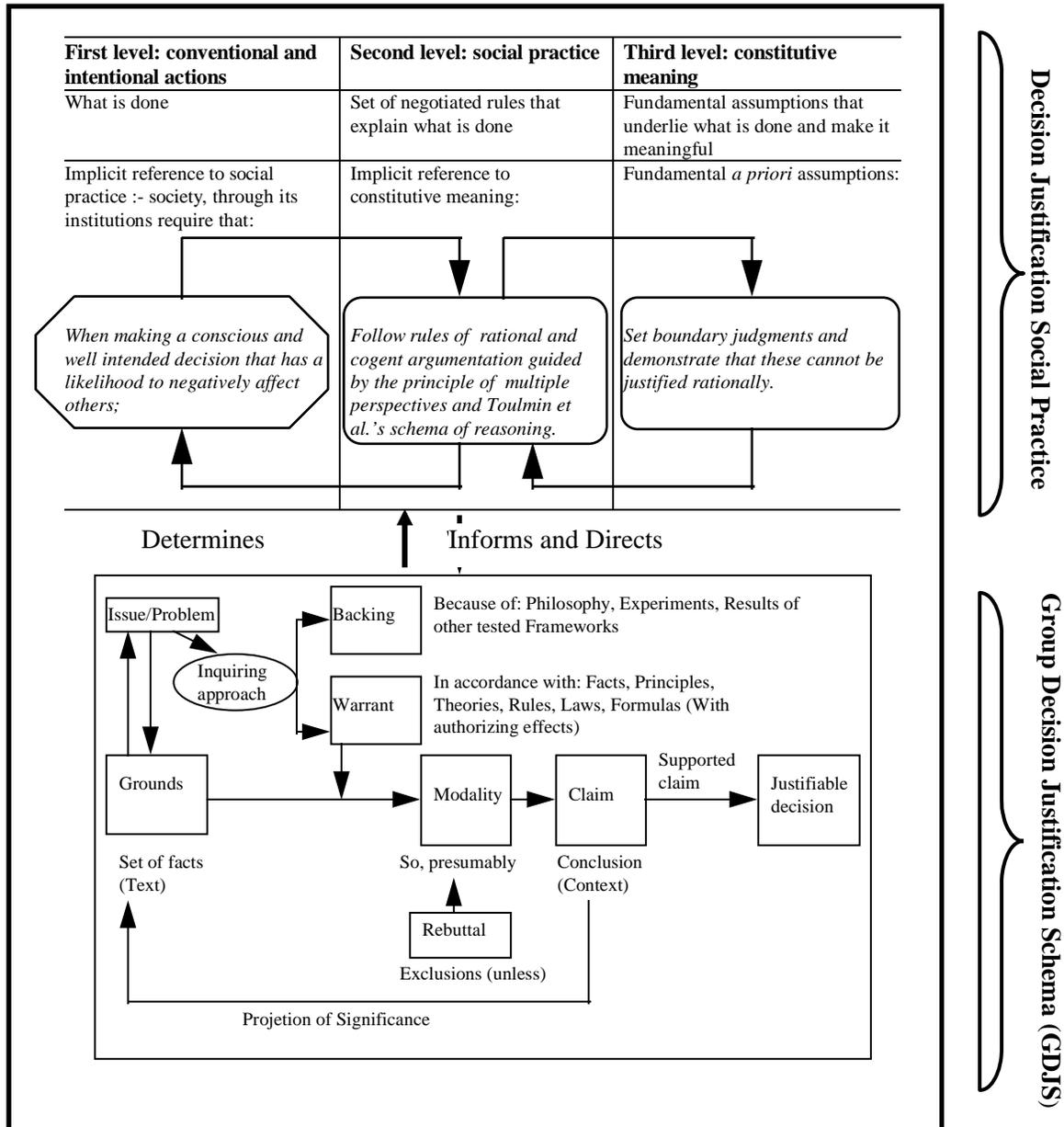


Figure 1: Group Decision Justification Framework (GDJF); Source (Phahlamohlaka, 2003)

Two research projects were initiated in 2003. The first was entitled: 'Enabling access to human rights through thought processes and web-based Group Support Systems tools'. The aims of the project were: (1) to explore innovative ways in which web-based GSS could render access to human rights possible by ordinary South African citizens and (2) to explore, as part of this access--seeking process, efficient forms of engagement between ordinary citizens, administrators and managers. The primary research questions for the study were as follows:

- How best can the ordinary South African public be enabled and empowered to exercise their constitutional rights espoused by the AJA?
- Can a thought process and Web-based technologies be used to support this enablement?

- To what extent would Web-based technologies be considered relevant in this process?
- Are these technologies considered as potentially valuable in enhancing a better understanding and implementation of the Act?

The second project was an expansion of the first one, with one more aim added: (3) to identify and harness opportunities for sustained collaboration and interaction by communities who would use web-based GSS tools within e-government contexts in South Africa. For this second project, collaboration engineering through the notion of a thinkLet (Briggs et al, 2003) and participation in their creation and packaging was adopted. The main research question here is:

- What features are needed in web-based collaboration tools and how should interfaces be designed to enable citizens to interact effectively with government and public bodies in South Africa?

The projects have since been successfully linked and funded by the National Research Foundation (NRF), with several post-graduate students and co-investigators researching different topics. Topics already addressed by students and co-investigators include: 'Enhancing procedural fairness in administrative action of the Administrative Justice Act of South Africa using web-based Group Support Systems'(Twinomurinzi, H. and Phahlamohlaka, L.J, 2005); 'Information flows for meaningful implementation of the Administrative Justice Act of South Africa'(Alexander, P.M. and Phahlamohlaka, L.J, 2005)); and 'Towards a Collaboration Engineering Framework for the Implementation of the Administrative Justice Act of South Africa'(Wooding, T. and Phahlamohlaka, L.J, 2005).

In this study, the notion of a thinkLet was used as a basis for conducting a simulation exercise using GroupSystems as a tool in a workshop setting. The aim was to raise awareness about the process involved in the implementation of the act using a real case and to demonstrate the possibilities for the use of computer-based technologies to support this process.

The study follows the Interpretive IS research tradition and embeds the thinkLet notion and the simulation exercises within the critical appraisal guidelines proposed by Atkins and Sampson (2002). Each workshop, which included the GroupSystems simulation exercise, was treated as a single case. This enabled us to use these guidelines to structure and to present the results of the simulation. Atkins and Sampson give five guidelines to follow when conducting single case study research; *the way of thinking*, *way of controlling*, *way of working*, *way of supporting* and *way of communicating*. The guidelines are in line with Klein and Myers (1999) and Walsham's (1995) recommendations on good interpretive case study research in Information Systems.

The rest of the paper is organized as follows: We discuss the requirements of the critical appraisal guidelines followed by a brief background on thinkLets and Group Support Systems. The design of the simulation exercises is presented next, followed by a presentation of the three field studies. The analysis of the simulation exercise in line with the critical appraisal guidelines is presented. Further research areas are pointed out and the paper ends with a concluding discussion.

THE CRITICAL APPRAISAL GUIDELINES

The critical appraisal guidelines for research involving a single case study were proposed by Atkins and Sampson (2002). The guidelines provide a rigorous set of criteria in the form of a checklist against which a piece of research can be assessed. According to Atkins and Sampson, the use of such guidelines is common especially in evidence-based disciplines such as medicine. Their guidelines are informed by well-established authorities on interpretive IS research, such as Klein & Myers (1999) and Walsham (1995) among others (Phahlamohlaka, 2003). Furthermore, Atkins and Sampson used Bronts et al. (1995), who proposed a framework for investigating IS development methods based on five classification elements: *way of thinking*, *way of working*, *way of controlling*, *way of supporting* and *way of communicating*. The *way of thinking* describes the assumptions and viewpoints of the researcher in the context of the current research and thus makes explicit the philosophical context in which the research is conducted. The *way of working* defines and orders the tasks and sub-tasks that are to be performed in the research exercise, and also provide guidelines and heuristics on how these tasks should be carried out. The *way of controlling* sets out how the research exercise should be managed while the *way of supporting* describes how tools can be used to support the research exercise. The *way of communicating* describes the form in which the research is to be presented. The framework thus covers both the research approach, which is 'a way of going about one's research, embodying a particular style and employing different methods' and the research method, which is 'a way to systematize observation, describing ways of collecting evidence and indicating the type of tools and techniques to be used during data collection' (Cavaye, 1996, p.227).

These guidelines are effectively used throughout the course of this study. In addition, the results of the simulations are analysed through the application of the guidelines. Each Workshop was treated as a single case framed according to the notion of a thinkLet, using GroupSystems as a tool.

BRIEF BACKGROUND ON THINKLETS AND GROUP SUPPORT SYSTEMS

The literature presents many definitions of a Group Support Systems (GSS). In this paper, we adopt the definition of a Group Support System as a combination of approaches, software and technology constructed to bring together and reinforce the dialogue, deliberations and decision-making of groups (Shen et al, 2003: 209). There is a vast amount of literature on GSS research since they surfaced in the 1970s. Reported results have, however, been inconclusive and often contradictory. According to Briggs et al. (2001), one cause of the conflict and ambiguity in GSS research results may be the result of focusing on what they say is a less-than-useful level of abstraction: GSS itself. They argued that in GSS research, the thinkLet could be a more useful unit of comparison than the GSS. They were conceptualised with a goal of building repeatable collaboration processes in Group Support Systems use and research. A GSS research approach based on this notion of a thinkLet was then proposed by Briggs et al. (2001), as a way to create repeatable patterns of thinking. A thinkLet, according to the authors, encapsulates three components of a GSS stimulus: the *tool*, its *configuration*, and the *script*. They report on having documented about 60 thinkLets that map to seven basic patterns of thinking: *diverge*, *converge*, *organize*, *elaborate*, *abstract*, *evaluate* and *build consensus*. Each thinkLet creates some unique variation on its basic pattern. By focusing research on thinkLets, rather than GSS, they predict that field and laboratory research may be more controllable, more replicable and better able to inform GSS development and use. They note that their field experience shows that thinkLets may be used to create repeatable, predictable patterns of thinking among people making an effort toward a goal.

The results we are presenting in this paper were based on what Vreede (2006) refers to as 'the spirit of the thinkLet'. We carried out the simulations with the goal of capturing patterns of collaboration that could be repeated in different settings in the process of implementing the AJA.

METHOD AND DESIGN OF THE SIMULATION EXERCISES

We follow an Action Research method since we are always influencing the simulation process through the awareness raising and training of participants in the use of Information and Communication Technology. The simulation exercises are designed according to a uniform set of procedures, support material, case scenario, instructions, duration and facilitation with the goal of being able to create possible repeatable patterns of interaction between those affected by an administrative action (a decision not in their favour) and those making the decision (administrators). The two case scenarios used in the workshops were taken from the real-life experiences of two case participants from the research of the first author during his Masters mini-dissertation (Twinomurinzi and Phahlamohlaka, 2005). We followed the notion of a thinkLet in designing the simulation exercises based on the design illustrated in Figure 1. While maintaining the same process in the simulation exercises, in Workshop 1 to Workshop 3 the first case was used and in Workshop 4 and Workshop 5, the second case was used. At the time of this report, Workshop 6 is yet to be conducted.

Each workshop participant on arrival received a folder containing eight instruments: the workshop programme, two research questionnaires, AJA workflow diagrams for individuals and for administrators, a case scenario of a person who had been affected by administrative action, a copy of the accompanying rejection letter that the affected person received, and a copy of the criteria to qualify for a social grant that the affected person had applied for. The workshops followed six patterns; social interaction, a description of the research objectives by the project leader, AJA awareness raising, a presentation of a case scenario, simulation of the AJA using GroupSystems based on the case scenario as an example, and research feedback. The social interaction followed a general principle whereby everyone attending the workshop was acknowledged in person. The research project leader then described the history of the research project and requested the active participation of the participants. The AJA awareness raising was carried out by two experts from the Justice College and a Master of the High Court from the North West Province. The Justice College expert explained the historical roots of the AJA, the present implementation strategies of the AJA and expressed some challenges being experienced. The Master of the High Court illustrated the AJA using examples of cases of an AJA nature that are dealt with in the High Court. The case scenario, the criteria and the rejection letter were presented by reading through them along with the participants to ensure the case to be used in the simulation exercise was read and well understood by all the workshop participants. The workshop participants were then asked to volunteer in which group they wanted to participate; either as an affected individual or as an administrator.

In the computer simulation exercises we gave tightly controlled sets of instructions and prescribed the interaction time between instruction sets. The research members facilitated the simulation at the computers where computer skills were

lacking. The simulation always started with the affected person (represented by several groups) asking for written reasons from the administrator as to why his/her application had been declined, in keeping with the requirements of the AJA. This was done by typing the request for reasons into Categorizer of GroupSystems and submitting them to several groups who had to respond similarly as administrators. We tightly controlled the submission times after each response on both sides so that the groups could proceed at the same pace. Several interaction cycles were allowed in each exercise and the process was allowed to continue for a maximum of one hour.

These computer simulations were followed by three research feedback sessions. The first was a group discussion in which the participants, facilitated by the research members, recorded their experiences of the AJA while using technology. For the second session the participants recorded their experiences individually. The final discussion requested participants to openly offer their opinions and observations within the context of the day on anything they wished to comment on. At the close of the workshops a follow-up workshop was requested and planned for with the participants. All participants expressed their willingness to continue as research participants.

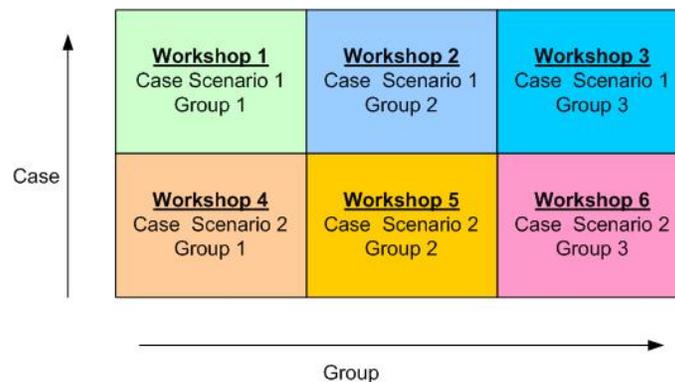


Figure 2: Design of the Workshops and Simulation Exercises

As pointed out earlier, each workshop, which included the GroupSystems simulation exercise, was treated as a single case; making it possible for us to use the guidelines as they are developed for single case studies. Figure 1 encapsulates the philosophical and theoretical underpinnings of the study. It is informed by the interpretive paradigm. Because the interpretive tradition is followed and we use an action research method, we are aware of the unavoidable bias since the study is designed to raise awareness and to provide training on the AJA. The criteria of the analysis were also based on the notion of a thinkLet. The researchers were fortunate in that the independent researcher was one of the creators of the thinkLet notion. As we proceed, the research is shared with other researchers and interest groups. This is done through seminars, meetings and some presentations. For instance a seminar involving all the researchers, interest groups and participants was convened. In addition, the results of parts of the study were presented at several Universities overseas. Data was collected in different forms; technology, observations, video-taping, discussions, questionnaires and written feedback, and we took minutes and reports and registers for the keeping of accurate records. The process is auditable because of the nature of the design through following the notion of a thinkLet. Through the use of the technology (GroupSystems), all the data from the simulation exercises was captured 'as is' from the participants.

Various forms of evaluation and feedback were obtained over and above the GroupSystems transcripts. These included further facilitated discussions after the simulations and completion of questionnaires. Except for only one instance at Lebotloane when the person contracted to do the video recording failed to show up, all the simulation exercises were video-recorded. Observation notes were made and several pictures were taken.

THE THREE FIELD STUDIES

Three field locations in three different Provinces were selected to carry out the simulation exercises; Siyabuswa in the Mpumalanga Province (hosted by SEIDET), Lebotloane in the North West Province (hosted by Leretlabetse Multi Purpose Community Center) and several Civil Society organizations (hosted by the University of Pretoria) in Gauteng. The choice of these locations was influenced by the availability of networked computers, their distance from the University of Pretoria as well as the willingness of the leaders from within these institutions to participate in the research project. Each of these locations presented unique environments, which will be further described in the next sub-sections.

A great deal of consultation and preparation with the community leaders went into selecting twenty participants from within the localities. The leaders from the institutions played a major role in deciding who the most appropriate participants from

within those communities would be. Most, but not all participants came as representatives of their organizations. The research sought to have a cross-section of participants ranging from government officials, community leaders, students, pensioners, social workers and those who were likely to attend. Written invitations that were signed by the research project leader and by the community leaders from within these institutions, were sent out to each participant two weeks prior to the workshop. A substantial effort also went into preparing the actual locations for the workshops. For each location, at least two visits prior to the workshop location were necessary to ensure that the logistical details were in order and the computers were set up well with GroupSystems.

In the following sub-sections, the unique features of each field location are outlined.

Lebotloane

Lebotloane is approximately two hours from Tshwane and the location chosen for the research is a Government ICT-driven Multi-Purpose Community Centre (MPCC). Lebotloane presented two unique features; the computer set-up and the social processes.

Here the twelve computers and the network infrastructure were of high standard but the network configuration was locked, allowing only four computers access to the network and Internet. This meant that only two simulation groups could be used. The social interaction processes took longer periods as the cultural practices were followed. Figure 3 below shows a simulation exercise in session and the research participants as a group outside the MPCC. The workshop took place on Saturday 01 October 2005.



Figure 3: In Lebotloane

Siyabuswa

Siyabuswa is also approximately two hours from Tshwane and the location selected for the research is a community education centre (SEIDET). Similarly, there are two unique features that were presented by the Siyabuswa location - the historical relationship with the research group and the computer set-up.

The project leader of the research team hails from the Siyabuswa area and the community education centre can be attributed largely to his efforts. There has therefore been a fifteen-year relationship between the research group and the centre from which a significant amount of published research has already emanated. The fifteen computers at this location were of low quality and needed technical attention to make them network-ready and to get them working with GroupSystems. Nevertheless, seven of the fifteen computers were technically upgraded and were used for the workshop on 17 September 2005. Figure 4 below shows a simulation exercise in session and the research participants as a group outside the centre.



Figure 4: In Siyabuswa

Tshwane

The Tshwane workshop was held at a newly established Group Support Systems research laboratory at the Department of Informatics, University of Pretoria, on Wednesday 07 December 2005. Here the participants were specially selected from a list of people that had been trained on the AJA by the African Centre for the Constructive Resolution of Disputes (ACCORD) in 2004 in the Tshwane region and were expected to have been practising with it. The researchers expected to listen to the experiences of the participants from the field with AJA in addition to conducting the simulation exercise. The other unique feature of this workshop was that only eight of the twenty-three people invited turned up for the workshop. This could be attributed to a city environment and the lack of an organizing host, unlike the Siyabuswa and Lebotloane workshops, which were in rural areas and where community centers served as organizing hosts. Figure 5 shows a simulation exercise in session and the research participants as a group.



Figure 5: In Tshwane

ANALYSIS OF THE SIMULATION EXERCISES

We begin the analysis of the results by combining the design and method of the simulation exercises presented earlier with the critical appraisal guidelines. From Figure 1 we look at the data from the various sources that we have, following the matrix as well as how the process was actually facilitated. From the process facilitation perspective, the results showed that the process as we have designed it is repeatable and predictable. The process can be condensed into timed steps as shown in Figure 6, the Simulation Model for the thinkLet. This gives us confidence that we are perhaps approaching a design of some kind of a thinkLet for simulating the AJA implementation process.

On reviewing the research itself against the critical appraisal guidelines, we found that we fulfilled all the requirements. The research is shared with other researchers and interest groups as we proceed. The researchers were fortunate in that the independent researcher available to verify the criteria for the analysis of the research results was one of the creators of the thinkLet notion. Furthermore, this expert (Vreede, 2006), observed the recent simulation exercises and provided very important observations that we paraphrase as follows:

- The formulation of a response by a role (a turn) is a thinkLet in itself. I propose we call this *TurnStormer*. The authors agree. Each subgroup (or individual in other situations) is thinking up reasons, bits and pieces of information, and then formulating a response. The data show that the responses are fairly polished in the sense that they consist of complete sentences and paragraphs. No sound bites. So, each role (whether represented by an individual or by a small group of participants) brainstorms elements of a response and then formulates this when it is its turn. Hence the name TurnStormer.
- Important for the effective use of TurnStormer in a simulation context is to keep the time for each role fairly short. If it takes too long, the other role(s) has to wait too long before it can respond.
- The overall process is very smooth in terms of the simulation part. What has to be checked is the quality of the output of the participants. Do they really get enough detail, enough learning, enough insight regarding the act under consideration? If not, then different script elements for TurnStormer have to be developed to entice them to provide better feedback. The authors found that a very good understanding of the act prevailed at the end of the simulations. This can be seen from the number of people who actually applied the act to their benefit and to the benefit of others within less than a year of their exposure to it.

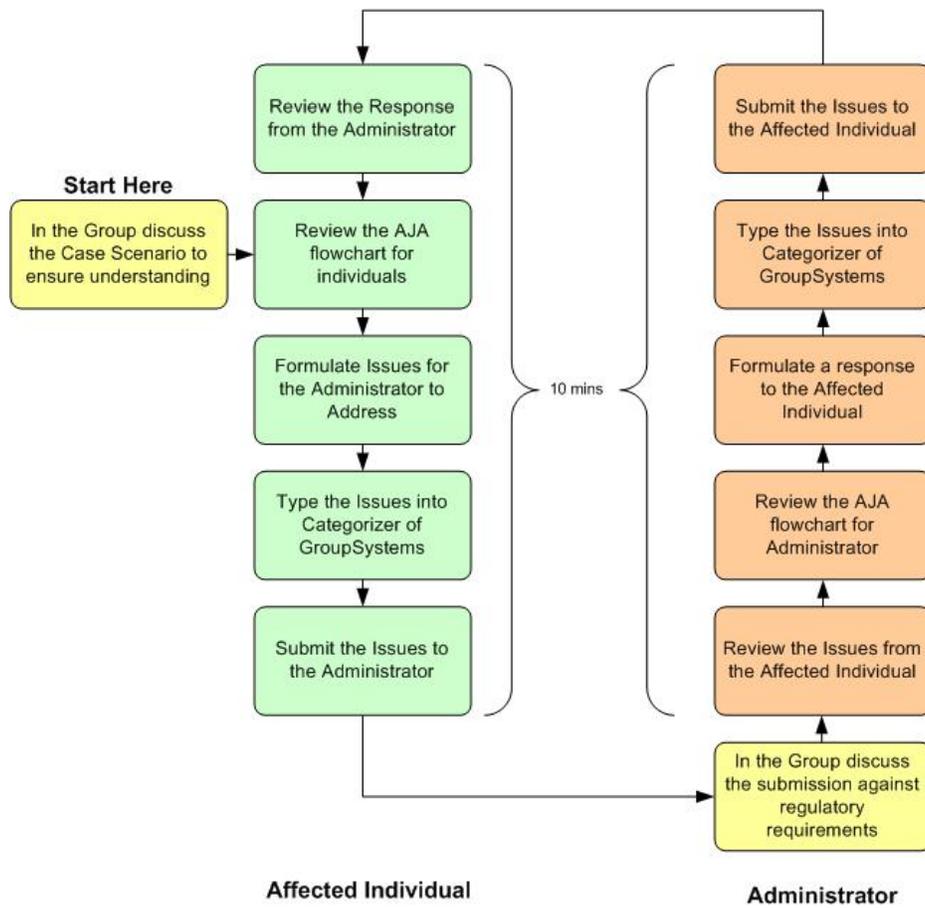


Figure 6: The Simulation Model for the TurnStormer thinkLet

- It is interesting to note the similarity between the TurnStormer and the PointCounterPoint (PCP) thinkLet. Both have the participants engage in a structured exchange of ideas. Both use as many pieces of (electronic) paper as the number of roles/participants. However, the goal of both is very different: TurnStormer only focuses on a number of cycles of exchanges between roles to experience a possible situation expressed in the game scenario. PCP focuses on surfacing different perspectives, points of view, and arguments on debatable issues to hopefully move the group towards a compromise or as yet undiscovered solution for the debatable issue.

The Tool, the Configuration and the Script of the emerging thinkLet are shown in Table 1.

| The TurnStormer thinkLet | |
|---------------------------------|---|
| Tool: | 1. GroupSystems Categorizer |
| Configuration: | 1. Create the two groups in Categorizer, the affected individual and the administrator. 2. Display the Categorizer tool for both groups. |
| Script: | <p>1. <i>Say this to the affected individual:</i></p> <p>a. 'You have read the scenario and the rejection letter, with your knowledge of the AJA, "Grace" how would you respond to the Administrator?'</p> <p>b. Type in your thoughts on the computer. Do not send them as yet. While one person types, let the others engage in discussion.</p> <p>c. You have 10 minutes to complete this task.</p> <p>d. Now submit your questions to your corresponding Administrator. 'Grace' 1 to Administrator 1, 'Grace' 2 to Administrator 2 ... 'Grace' <i>n</i> to Administrator <i>n</i>.'</p> <p>2. <i>Say this to the Administrator:</i></p> <p>a. 'You have read the request from "Grace" as well as the rejection letter you sent to her, with your knowledge of the AJA and from the Administrator point of view, how would you formulate a response to "Grace"?'</p> <p>b. Check that the application from 'Grace' complied with the criteria for a Child Support Grant.</p> <p>c. Wherever you find a point to note that might be of importance to 'Grace', make a note of it.</p> <p>d. You have 5 minutes for this exercise.</p> <p>e. Check that you followed the criteria for procedural fairness according to the AJA.</p> <p>f. Wherever you find a point to note that might be of importance to 'Grace', make a note of it.</p> <p>g. You have 5 minutes for this exercise.</p> <p>h. Discuss the notes you have raised and write a response to 'Grace'.</p> <p>i. Type out the response. Do not send it.</p> <p>j. Send the response to 'Grace'.'</p> <p>3. Allow 3 cycles for this exercise.</p> |

Table 1: The TurnStormer thinkLet

With regard to the objectives of the research and the research questions, we can confidently claim that the workshops and the simulation exercises are succeeding in raising the required awareness. Three out of four groups in the Siyabuswa environment and three out of five groups in the Lebotloane environment had someone who, as a result of the workshops, assisted someone or him-/herself by using the provisions of the AJA. Two participants from the Siyabuswa group made the following remarks"

'Yes, one of the participants was personally affected by the AJA and used the principles of the AJA to formulate a program to assist with the implementation of the AJA. Another one of the participants was involved in helping people who were HIV positive to get grants from the government.'

'Yes, on door to door campaign, we had one family that applied for an old age grant and was not given reasons as to why his application was unsuccessful. I helped him to follow the procedures of requesting reasons for application failure when implementing AJA and at the end he did receive the grant. At one of the workshop for youth camp, people were not aware of the Act (AJA).'

Similar experiences emerged from the Lebotloane and the Tshwane groups as well. In suggesting ways in which we could do the research, especially the possibility of using ICT for facilitating government-citizen interaction, the results could be summarized as follows:

- Multipurpose centers should be opened so that everyone in the community can use them and get more information and become more computer-literate. In addition to the workshops, public presentations could be made as well as using other ICT centers and schools.
- There is general support for the notion that the Community Development Workers (CDW) need to be empowered by government with enough accessories to promote AJA.
- Indabas, Kgotlas and TV programmes, radio, road shows and marches are suggested as other ways in which awareness could be increased.
- Requesting local municipalities to facilitate access to ICT facilities, where they exist, to communities.

In conclusion, we have presented an emerging thinkLet as the main outcome or result of this research milestone. Although the thinkLet is not yet refined, its form and structure as well as its practical execution have been tested and found to work well. Although we are still not able yet to provide a complete answer to the main research question, all indications are that we are moving in the right direction.

FURTHER RESEARCH AND CONCLUSION

The results presented in this paper complete what we could call the pilot phase of this research. What remains is to take the study to a national level, where the simulation exercises could be performed in each province. We have not reached the point where we could describe with confidence the features that are needed in web-based collaboration tools and how the interfaces could be designed to enable citizens to interact effectively with government and public bodies in South Africa. We are, however, very encouraged by the emergence of the thinkLet that we have reported on in this paper. We have thus found a reliable mechanism of doing this research on a larger scale, using a repeatable and predictable process that has the potential to be transferred to the participating communities and government departments to run on their own.

REFERENCES

1. Alexander, P.M. and Phahlamohlaka, L.J. Information Flows for meaningful implementation of the promotion of Administrative Justice Act of South Africa. *Presented at SAICSIT 2005*, White River, Mpumalanga Province, South Africa; 20-22 September 2005.
2. Alexander, P.M. and Phahlamohlaka, L.J. Amartya Sen's Capability Approach applied to Information Systems research, *South African Computer Journal*, 2006 (Forthcoming).
3. Atkins, C. and Sampson, J. 2002. Critical Appraisal Guidelines for Single Case Study Research. In *Proceedings of the Tenth European Conference on Information Systems*, June 6-8, 2002 Gdansk, Poland.
4. Briggs, R.O., Vreede, G-J. De, Nunamaker Jr, J.F. and Tobey, D. 2001. ThinkLets: Achieving Predictable, Repeatable Patterns of Group Interaction with Group Support Systems (GSS). In *Proceedings of the 34th Hawaii International Conference on System Sciences*, Hawaii.
5. Briggs, R.O., Vreede, G-J. De, Nunamaker Jr, J.F. 2003. Collaborative Engineering with ThinkLets to pursue Sustained Success with Group Support Systems. *Journal of Management Information Systems*, 4 (19):31-64.
6. Bronts, G., Brouwer, S.J., Martens, C.L.J. and Proper, H.A. 1995 A Unifying Object Role Modelling Theory, *Information Systems Journal*, 20(3): 213-235.
7. Cavaye, A. 1996. Case Study Research: A multi-faceted research approach for IS. *Information Systems Journal*, 6: 227-242.
8. Klein, H. and Myers, M. 1999. A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly* 23(1): 67-93.
9. Phahlamohlaka, L.J. 2003. *An Analysis of Group Decision Justification and its Implications for GSS use and design ideals*. Unpublished PhD dissertation, University of Pretoria

10. Phahlamohlaka, L.J. 2003. *Enabling access to Human Rights through thought processes and web-based Group Support Systems Tools*. Research Development Programme Proposal, University of Pretoria, December 2003.
11. Shen, Q., Chung, J.K.H., Li, H. and Shen, L. 2004. A Group Support System for improving value management studies in construction. *Automation in Construction*, 13 (2004): 209–224
12. Twinomurinzi, H. and Phahlamohlaka, L.J. Using web-based Group Support Systems to enhance procedural fairness in administrative decision making in South Africa, invited book chapter on Online Deliberations (Todd Davis and Beth Noveck (Eds.), Stanford University, USA, 2006). (Forthcoming).
13. Vreede, G.J. De. 2006. Facilitation of Electronic Collaboration with Group Support Systems. In *INF 821 Lecture by Guest Lecturer: Vreede, G.J. De*. 14 July 2006.
14. Walsham, G. 1995. Interpretive case studies in IS research: nature and method. *European Journal of Information Systems* 4(2): 74-81.
15. Wooding, A. and Phahlamohlaka, L.J. Towards a Collaborative Engineering Framework for the effective implementation of the Administrative Justice Act of South Africa. *Presented at the Community Informatics Research Network (CIRN) International Conference*, Cape Town, South Africa, August 2005, 24-26

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