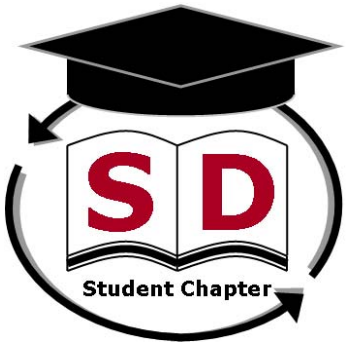

Student Chapter
of the System Dynamics Society

Snowball (2/2007)
3rd Newsletter of the Student Chapter

Dear Member of the Student Chapter of the System Dynamics Society,

The winter is almost over, but will remain in our memories as a special one: in several locations around the globe, this winter has been the warmest on record. In other places, it has been dazzling cold and extreme whether variability has been observed everywhere. Is this just coincidental, is it part of a natural climate cycle, or is it a symptom of the global warming caused by human activities? And if the latter is true, what can SD do to tackle the problem? Some thoughts from fellow members on this hot issue are discussed in the headline.

This winter has been a special one to our Chapter too, with new incoming members, a PhD student graduating, some good publications and the consolidation of our communication tools: website, newsletter, and list server. Despite these good progresses, we are targeting a broader participation so as to better shape our tools accordingly to your needs.

Members who are actively using our communication network reported discovering “important contacts”, “useful databases”, and “the pleasure of discussing with someone else researching in the same area”. Don’t wait any longer! Fill in the information about your area of research on the website by sending an email to us, and get involved!

A warm wish for a great Spring time,

The Policy Council of the Student Chapter

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1. Headline: Climate Change!

Three recent reports – the World Energy Outlook 2006, the Stern Review on the Economics of Climate Change, and Climate Change 2007 – define key challenges for humanity to successfully mitigate carbon emissions from the burning of fossil fuels and stabilize atmospheric warming. These reports concur that the transition to a de-carbonized global economy must be achieved within three decades in order to avoid a catastrophic warming trend in which atmospheric temperatures could increase in excess of 5°C over this century.

A recent discussion in the SD list-serv highlighted what the potential contribution of SD to climate models can be. Tom Fiddaman greatly contributed to the discussion providing answers to questions regarding the time frame and boundary of climate models and comparing the advantages of using SD models with respect to energy balance models and 3D spatial models (GCMs).

Tom's last paragraph is very challenging and motivating:

"It's a basic SD insight that systems with long delays require anticipatory action for effective control. We can't just sit on our hands until we are fully satisfied with climate models. So, what are we to do in the interim? Seems like we should be doing what SD does best: assimilate the knowledge of domain experts (like climatologists) into a framework that makes it relevant to policy on time scales we can influence."

With this we would like to invite all SD students working in the energy/environment/climate change fields to share their knowledge and participate to the SD student's list-serv.

We may not all be working on the same issues, in fact, climate change can be seen as both a global and local problem (e.g. precipitation is essential for the economy of developing countries heavily relying on agriculture, and sea level rise is a big concern for Caribbean islands), but our studies and knowledge can be improved through mutual exchange of research experience. We as the Student Chapter are looking forward to contributing to an exciting discussion on climate change! Be with us.

2. PhD Colloquium at the ISDC 2007: Call for Papers

The objective of the colloquium is to facilitate exchange and discussion among PhD students working on foundations, techniques, tools, and applications in System Dynamics. Oral presentations are followed by dedicated workshops where common problems in SD research projects are identified and analyzed. This provides a unique opportunity for students and experienced SD practitioners alike to present and discuss their research in a constructive atmosphere. Poster sessions are also organized, and always result in lively debates with broad participation. Indeed, the participation of experienced academics and other practitioners from the wider System Dynamics community is what makes the day a special event.

Figure 1: Pictures of the PhD Colloquium at the ISDC, 2005

We warmly invite PhD students in the early to middle stages of their research to present their research proposal at the colloquium. You will receive valuable feedback from experienced researchers in the field as well as from fellow students. Even if you are not presenting your work, you are still more than welcome to join the PhD Colloquium on the day.

Date: 29th July, 2007
Organizers: Stefan Groesser and Chintan Vaishnav
Contact Address: colloquium@sdstudentchapter.org
Website: http://www.systemdynamics.org/chapters/student
Submission Deadline: April 24th, 2007
Acceptance Notification: June 5th 2007

Process:
Please complete the application form [downloadable at http://www. systemdynamics.org/chapters/student/docs/ColloquiumCover.pdf - Adobe Acrobat Reader format] and submit it together with an extended abstract (minimum of five pages) or preferably a full paper (maximum of 20 pages).

3. Knowledge stock: SD-Publications of Students and other SD-related material

In the following, we have put together interesting and important publications in the field of System Dynamics.
The first one is the major paper of the PhD Thesis of Santiago Arango, University of Bergen, which documents insights about the structure and behavior of electricity markets. The major paper from his thesis is: Arango S., et al, Lessons from deregulation: Understanding electricity markets in South America, Utilities Policy, 14 (2006) 196-207.

Further interesting articles have been published in the latest issue of the System Dynamics Review. The article of Luna-Reyes et al. about the Group Model Building methodology is very insightful (Luis Felipe Luna-Reyes, Ignacio J. Martinez-Moyano, Theresa A. Pardo, Anthony M. Cresswell, David F. Andersen, George P. Richardson Anatomy of a group model-building intervention: building dynamic theory from case study research (p 291-320).

And finally, the following three applications of System Dynamics show good modeling practice and are therefore worthwhile reading:

- Robert Y. Cavana, Leslie V. Clifford, Demonstrating the utility of system dynamics for public policy analysis in New Zealand: the case of excise tax policy on tobacco (p 321-348);
- Ann van Ackere, Christian Haxholdt, Erik R. Larsen; Long-term and short-term customer reaction: a two-stage queueing approach (p 349-369);
- Sheldon Friedman, Is counter-productive policy creating serious consequences? The case of highway maintenance (p 371-394)

If you have some recent publications and would like to signal it to our members, send us the reference, and it will appear in our next newsletter.

4. Inflow and outflow: new members and recently graduated PhDs

This section is a communication platform for incoming members and for recently graduated students to share with us part of their experience. Brief descriptions of newly started projects and recently completed ones will also be posted here. This section is based on your input.

New members of the Chapter:

Last Name	First Name	Institution
Yong	Zhou	Jinan University
Munaf	Aamir	Worcester Polytechnic Institute
Benjamin	Chatfield	Lumenos
Stephen	Comer	National GeoSpatial Intelligence Agcy
Charles	Ebitei	Niger Delta University
Esther	Echaniz	San Sebastian Science Park
Travis	Franck	MIT
Megan	Hopper	University of Nevada Las Vegas
Ralf	Lippold	BMW AG Plant Leipzig
Rabyah	Mansor	University of Salford
Lukas	Schmid	FHS St Gallen
Michael	Schwandt	Virginia Polytechnic Inst & State Univ
Amin	Torabkhani	Northeastern University

This month, we have won Florian Kapmeier, who recently obtained his PhD from the University of Stuttgart, Germany, to report about his experiences during his dissertation period. Florian, thanks for your contribution.

“The System Dynamics method has always fascinated me since the end of my studies of Business Administration at the Universität Stuttgart: it enables people to look holistically at problems and oftentimes reveals counterintuitive solutions to problems in manifold application areas. Following my diploma thesis on SD, I started to work on my PhD at the Chair of Strategic Management (University of Stuttgart). In my research I studied the dynamics of interorganizational learning in learning alliances. Alli-

ances, even between competitors have become an increasingly important vehicle for competitive advantage. Yet, most alliances fail and are terminated early without obtaining the desired common goals. Or, partners learn for areas unrelated to the alliance – an undesirable alliance outcome. Current alliance research often tends to neglect a feedback-perspective which might be the reason why certain behavioral effects cannot be explained – SD meets this challenge. Based on theoretical findings and supported by a case study I designed a simulation model focusing on competitive and cooperative policies to analyze the dynamics of learning alliances. Simulation runs led to a series of managerial findings for policy-designers. Professors Erich Zahn and John Morecroft were my thesis supervisors. I defended my thesis in spring 2006, and the book is published in early 2007.

Finding an appropriate research topic is definitely one of the most difficult tasks. Because I worked at the Chair of Strategic Management, I looked for a dynamic problem in the area of strategy. While there are a lot of interesting and challenging subjects out there, not all of them are necessarily dynamic. Thus, it is important to choose a dynamic problem which is applicable to the SD method in a field in which one has specific and deep knowledge.

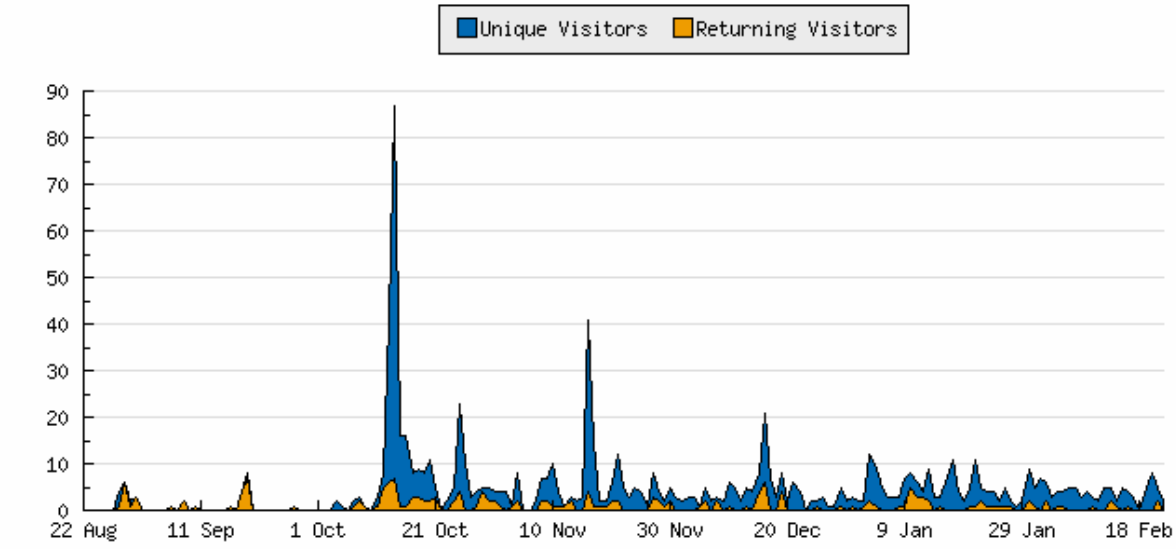
I found it very important to exchange views and experiences with other System Dynamicists. Sharing thoughts and ideas with sparing partners proved highly insightful. Many SD modeling-related challenges that one might face have been solved by research fellows before. There are many ways to get to know colleagues: at national and international conferences or workshops, for example. As we did not have a PhD Colloquium about SD at my university, we initiated such an inter-university-wide colloquium with scholars from the University of Mannheim, for example. The colloquium's objective was to discuss our research and to give advice at different stages. I was also fortunate to be invited to do research at the SD Group at MIT. This was an additional foundation of emerging sparing-partnerships.

My stay at MIT also broadened my horizon regarding the appropriate process on how to conduct System Dynamics-related research tremendously. I learned, for example, that it was crucial to extend my research with a real-world case study – the problem should be relevant to the real-world. It was a major challenge to find case study partner firms. Though many firms showed interest in the topic, they refused to talk about it as it was too sensitive. Presenting at an international PhD Colloquium opened the door to my research site. The insight turned out to be essential for validating my research propositions.

Concluding, the past years of conducting research with SD were intense but I took pleasure in it. An exciting research question and a regular exchange with colleagues make it much easier to stay motivated for a long period of time."

5. Outlook for the second half of 2007

The following graph shows the number of visitors of the student chapter website over time. The number of unique visitors peaked in the middle of October to approx. 90 visitors. At this date, the first issue of Snowball was released. As can be seen from the figure, the number of returning visitors is rather low (around eight at max). We are considering various possibilities for making the website more useful to our members, and we warmly welcome your suggestions regarding this.



The topic for our next headline will be “major System Dynamics research groups worldwide”. If you are part of a SD research group and would like to share your experience with other group members about what the research group is doing research and the difficulties you encounter, just write to us! We will create a section at our Student chapter website to easy the communication.

With Best Regards,

The Policy Council of the Student Chapter