

2007 System Dynamics Applications Award

Citation for Winner: Vince Barabba, Chet Huber, Fred Cooke, Nick Pudar, Jim Smith and Mark Paich

Since its founding fifty years ago, system dynamics has been concerned with having an impact on real world decisions. Although we might ask why we waited so long, perhaps it is fitting on this 50th Anniversary that the Society initiates an award for “the best real-world application” of system dynamics.

Since this is the inaugural award, before announcing this year’s winner let me first describe the award and its requirements. Quoting from the announcement: “The Applications Award is presented by the System Dynamics Society as often as once every two years for the best ‘real world’ application of system dynamics conducted within 10 years of the submission deadline. The best application will be based primarily on demonstrated measurable benefit to an organization through the use of system dynamics, and secondarily for new ideas that improve the art of applying system dynamics, or for relating work to existing system dynamics literature and/or other disciplines. Winners are announced, and a plaque presented, at the annual conference of the System Dynamics Society. The winner may also be invited to deliver a talk on the work, which may subsequently be published in the *System Dynamics Review*.”

The basis for the submittal can be a published paper, a conference paper or presentation, or an internal company report or presentation. At least one named author must have been employed at the time of the work by the company or organization whose performance was improved by the system dynamics modeling effort. Given that nature of the award, self-nominations are encouraged.

I am Jim Lyneis, Chair of the Applications Award Committee. The other members of the Committee are Brad Morrison, Kim Warren, Eric Wolstenholme, and Erich Zahn. Before I introduce this year’s winner, I should say that we had a number of strong entries this year, perhaps not surprising since we should have a large backlog of potential applications. And I urge you to keep those nominations coming in future years. However, one particular nomination stood out from all the others.

I’m pleased to announce that the inaugural winner of the Applications Award is Vince Barabba, Chet Huber, Fred Cooke, Nick Pudar, Jim Smith and Mark Paich for the paper “A Multimethod Approach for Creating New Business Models: The General Motors OnStar Project” (*Interfaces*, 32(1), January–February 2002, pp. 20–34). As some of you may recall, a plenary presentation on this work was given by Nick and Vince at the 2005 Conference, and for that reason we will not have another presentation this year. Now please join me in welcoming to the podium the authors of this year’s winning work.

First, let me say a few words about the authors:

Vince Barabba was the General Manager of Strategy at GM. Vince was the key supporter of system dynamics at GM and originated many successful projects including OnStar and XM radio. Vince was the Director of the US Census Bureau under two Presidents and was President of the American Statistical Association. In the process of failing retirement, Vince is now the founder and Chairman of Market Insights Corporation and Kings County Ventures LLC in California.

Chet Huber is the President of OnStar Corporation and has successfully guided the firm from inception to nearly five million subscribers.

Fred Cooke is retired Executive Director Commercial Development for OnStar Corporation and was integral in the creation of the business model.

Nick Pudar is Vice President Planning & Business Development for OnStar Corporation. Nick brought system dynamics to GM almost 20 years ago and sponsored multiple projects when he managed the GM Strategic Initiatives Group. Nick did his MBA at the Sloan school where he studied system dynamics.

Jim Smith is Director New Business Development for OnStar Corporation, and was an analyst on the original project

Mark Paich is a Principal at Decisio Consulting and has been involved in system dynamics consulting for almost 30 years, including a PhD from MIT.

As to the paper itself, the Committee was impressed not only with the quality of the work and its impact, but also the presentation in the paper itself. For those of you thinking of submitting a nomination in the future, the paper provides an excellent example of the how to describe the model, the process, and its impact and value.

The paper describes how system dynamics was used to fundamentally redesign a business strategy for GM's OnStar service. Through investments and policies suggested by the modeling work, OnStar has become the industry leader in vehicle telematics, is by far the dominant player in the market, and is profitable. Various estimates place the market value of OnStar, were it to be spun off, in the billions. This remarkable success is almost entirely due to the effective application of system dynamics.

Quoting from a supporter of the work, noteworthy features of the work include:

First, the team faced the challenge of modeling an industry that, at the time, did not exist. Hence no analogs, examples, or data were available to guide the modeling effort or estimate critical parameters. System dynamics, with its ability to integrate qualitative and quantitative data, statistically estimated and judgmentally estimated parameters, was critical in the development of a credible and useful model. Second, multiple modeling approaches were needed, including market research tools, decision analysis, and so forth. Throughout, system dynamics was the integrating method that placed the disparate data from all these other tools into a common, consistent framework that could be used to simulate the consequences of different strategies Third, the work demonstrates the importance of a modeling process that maximizes the engagement and participation of key decision makers. The modeling insights were counterintuitive. GM had no prior experience running a service business such as OnStar, and there was substantial bureaucratic inertia and some opposition to the rapid changes suggested by the modeling process. The ability of the modeling team to work effectively with the clients (very senior and busy executives) is a key part of the success. Indeed, the GM system dynamics group represented by the authors of this paper have developed a subtle and sophisticated process, which they call the Dialogue Decision Process, designed to maximize the chances for understanding and implementation based on the iterative involvement of the clients with the modeling team.

The OnStar modeling project was not only a technical and business success, but also put into practice many of the principles for effective group modeling and successful implementation that have long been emphasized in the field of system dynamics. The success of the OnStar project led to additional projects that have also proven highly profitable, including GMs alliance with XM satellite radio. It is an exemplary application of system dynamics, and deserves to be the first recipient of the new Applications Award.

Please join me in congratulating Vince, Chet, Fred, Nick, Jim and Mark on this fine work.

*James M Lyneis
Worcester Polytechnic Institute
Chair, System Dynamics Society Applications Awards Committee*