The Ackoff Center for the Advancement of Systems Approaches of the University of Pennsylvania presents a new Research Project:

Creating Breakthrough Business Models

A Simulation / Edutainment Software Research Project

Contents
- Objective
- The Need
- Project Intent
- Difficulties with Creating New Business Models
- Research Proposal
- The Research Approach
- Project Publications
- Benefits of Participation in This Project
- Project Team
Objective
To help sponsoring companies develop sustainable competitive advantage by providing them with a simulation/edutainment software tool that will enable their executives to model the development of breakthrough businesses in their own companies.

The Need
Leading companies have discovered that to keep up with the rate of change in the marketplace, today’s key performance factors are different than they were in the past. Previously, development of new markets was a responsibility of the R&D organization, and the focus was on creating new technologies. Now we see that focusing just on technology development in R&D, on traditional new product development, and on incremental innovation is not sufficient. Instead, companies must create significant breakthroughs just to sustain their position in the market.

But creating breakthroughs is difficult for most organizations to accomplish. R&D and engineering groups are not equipped for this type of innovation, and those that do succeed at creating breakthroughs often do so by chance.

Project Intent
It is the intent of this project to identify the principles, systems and methods by which existing companies can create new business breakthroughs with consistency.

Project experiences and outputs will include:

1. Collaborative, exploratory workshops involving all sponsoring companies,
2. Written materials describing project conclusions, and
3. A “business war game,” an interactive software game that embodies the principles discovered through this project, and provides an experiential method for executives to explore these issues and to model more effective behaviors for their own organizations.
Difficulties with Creating New Business Models

One of the most challenging managerial problems is that it is very difficult to actually see and understand these evolutionary processes. Particularly in larger organizations, the focus on preserving existing businesses makes it very difficult to recognize when their underlying models are stagnating, or when new models become possible.

Among the key questions that this project will address therefore includes:

- What drives the evolution of customer needs and expectations?
- How do breakthrough businesses get created?
- What are the repeatable processes and methods?
- What are the roles of engineering and R&D?

We believe that there are good answers to these questions, answers that expose consistent patterns underlying the process of creating breakthrough innovations. Consider some of the most successful business ideas of the last 2 decades:

- Charles Schwab recognized the emergence of a new kind of investor, and defined a new way to provide service to that investor.
- The Home Depot founders recognized that customers wanted a new kind of store to buy everything for their homes, combining a lumber yard, hardware store, garden supply, and contractors’ supply house into one.
- Fedex founder Fred Smith saw the need for a new kind of package delivery service.
- Visa creator Dee Hock designed an entirely new business model to spread the risk of issuing credit cards and the cost of administrating a global charge, collection, and payment system involving thousands of banks.
- Amazon.com founder Jeff Bezos saw how to use the internet to create a new kind of superstore.
- Dell’s innovations are primarily in the supply chain and in the direct linkage between the company and its customers.
- Saturn has introduced numerous innovations in the structure of the relationship between the customer and the company.

Interestingly, one of the key factors that the companies listed here have in common is that they seem to have succeeded at creating new businesses largely by accident.
Interestingly, one of the key factors that the companies listed above have in common is that they seem to have succeeded at creating new businesses largely by accident. They appear to have applied specific insights in specific situations without an understanding of the broader implications, patterns, and methods behind what they are doing, and generally without developing the capability to systematically repeat their successes.

What is a “breakthrough business model,” and how can existing companies create them?

During the last decade, a lot has been written on this topic. Peter Drucker and Adrian Slywotski, among others, have addressed this question. Drucker describes it as “the theory of the business,” and Slywotski talks about the migration of value from one business model to another. Both of these concepts are relevant to this project.

In our terms, a breakthrough business embodies what we call a new “business model,” which consists of four elements and the relationships between them:

1. A view of customers and their evolving needs and expectations,
2. A view of the evolution of technology, the marketplace, and competition,
3. A view of products and services and how they are brought to market, and
4. A view of the organizational and managerial approaches that get work done to bring an enterprise to life.

One of the most difficult challenges that managers face today is the complex interaction of these four factors, particularly with the unexpected emergence of new forms of competition. Market niches that once had natural barriers are suddenly exposed.
A Business Model is a description of this “game” and of a firm’s objectives in it. The process of business modeling is the process of understanding how existing relationships, structures, and processes define the game as it is played in a particular industry or market, how it is changing, and what new possibilities are emerging.

The hypothesis underlying this project is that breakthrough business ideas apply specific new technologies, which we call “enabling technologies,” to deliver information, products, and services in new ways. These new ways address previously unrecognized or unmet needs, and appeal to customers precisely because they improve the quality of what is available to them, or reduce the cost, or both.

Hence, the project will examine the complex linkage between the evolution of the market, the development of organizational strategy, the design of operations, the management of engineering, R&D and innovation, and the roles they play in the creation of new breakthrough businesses.

In the end, the project supports the development of sustainable competitive advantage for the sponsoring companies by improving their ability to understand and manage situations and markets of great complexity.

**Key Research Questions**

The research process will address these key questions, and others:

- What drives the evolution of markets, customer needs and expectations?
- Why do differentiated markets become commodity markets?
- How is the tendency toward commoditization overcome?
- Why does the combination of enabling technologies with new business models create breakthroughs?
- What are the repeatable processes and methods?
- What are the roles of engineering and R&D?
- How should current management practices be changed?
- How should current innovation practices be changed?
What changes are needed in the business processes of strategy formation, operations design, and R&D management to make it possible for new business models to emerge effectively?

- How are corporate strategy, operations, engineering, and R&D and innovation linked as a system that enables (or prevents) new business models from being developed and brought to market?
- What changes are needed in the business processes of strategy formation, operations design, and R&D management to make it possible for new business models to emerge effectively?
- What are the key elements of a business model innovation system, and how do they interact with one another?
- What precisely is the relationship between enabling technology and the business model itself?
- What are the key structural factors and relationships that lead to success?
- What are the key components of an effective thinking process?
- What are the counter-examples? (For each of the companies listed above, for example, can we identify one or more companies that have failed to innovate adequately along these dimensions, and has seen its business suffer as a result?)

Key questions specifically informing the case studies:

- Why did these insights come about when they did?
- Was it by chance or by design?
- What was the organizational process?
- How did the original ideas get developed?
- What obstacles and support were there?
- Is there a consistent pattern of thinking behind these breakthroughs?
- Can a system of thinking and research result in more new ideas of this type and of this caliber?
- What would that system look like?
Because of the underlying complexity of these factors, systems thinking has a significant contribution to make to its development. These topics do not lend themselves to analytical, parts-oriented thinking, but rather to systems thinking approaches that examine complex relationships and complex patterns of behaviors. The systems perspective advocated by the Ackoff Center, and its advanced expertise in systems approaches, behavioral modeling, and game development, provides an ideal forum for the research activity and for the presentation of its results.

The Research activities will be structured as follows:

Phase 1: Thesis Development and Case Studies (Year 1)

Step 1: Thesis Development: A significant amount of work has already been done to clarify and articulate the thesis. In Step 1, this work will be consolidated, and complemented with research that is already being undertaken by University of Pennsylvania graduate students.

Step 2: Case Study Workshops: The research team will then conduct workshops with sponsor companies to examine the internal experiences that exemplify the characteristics of breakthrough business models.

Step 3: Application Workshops: The refined thesis and resulting methodology will be presented and tested in collaborative workshops in which participants from many sponsoring organizations will participate.

Phase 2: Development of the Simulation / Game Software (Years 2 & 3)

The synthesis will then be expressed in the form of a simulation / edutainment software game that will enable executives to explore the underlying dynamics of these issues, and to model different behaviors pertinent and important to the development of new breakthrough business models.

Four types of materials will result from this study:
**Project Publications**

Each sponsoring company will receive the full body of information gathered about it, and all research consortium materials that are not for general distribution, as well as those made available to the general public.

1. Private materials, gathered only for use within each individual sponsoring company. This will include the case study and supporting research.
2. Research consortium materials, gathered only for use within the consortium sponsoring this research. This will include the case study synthesis.
4. The simulation software.

Benefits of Participation in This Project

Our belief is that this hypothesis could become an important tool in the development of sustainable competitive advantage. Therefore, early access to this project will provide a valuable head start to the project sponsors. Specifically, we suggest the following benefits:

1. The opportunity to participate in a project focused directly on a critical business problem, breakthrough innovation.
2. Early access to the simulation software, and the opportunity to use it inside your own company.
3. The opportunity for detailed exposure to the thesis and participation in its development.
4. The opportunity to apply the thesis to your own organization on a case study prepared from within your organization.
5. The opportunity to apply the thesis to your own organization
Our belief is that this hypothesis could become an important tool in the development of sustainable competitive advantage.

through interactive workshops with your peers from other organizations.

6. The opportunity to study the general research results prior to publication.

7. The opportunity to compare case studies between organizations.

8. The opportunity to participate in workshops to apply the research results internally and to see how it can be applied in other organizations.

9. The opportunity to work with the Ackoff Center and to become involved in its activities.

10. The opportunity to interact with University of Pennsylvania faculty and students.

Project Team

Project Leader Langdon Morris has been named Senior Practice Scholar of the Ackoff Center. He is a partner of InnovationLabs LLC, a consulting firm focusing on innovation, strategy, and organization design. www.innovationlabs.com His clients include leading firms in high technology and industry, as well as start-up companies and government organizations.

He is author or co-author of 3 books:


His other writings include white papers commissioned by Groupe Bull (Innovation), Groupe Pinault-Printemps (Leadership in Retail), and Capital Holding Corporation.
He has taught business strategy at the MBA level at the Ecole Nationale des Ponts et Chaussées Master of International Business program, Paris, and the Universidad de Belgrano, Buenos Aires. He is a member of the Scientific Committee of Business Digest, Paris, and has been a Contributing Editor of Knowledge Management Magazine.

Joining Mr. Morris on the project team are Barry Silverman, University of Pennsylvania Professor, John Pourdehnad, Associate Director of the Ackoff Center, a team of University of Pennsylvania graduate students, and other InnovationLabs principals including Bryan Coffman, Michael Kaufman, and James Smethurst.

The Ackoff Center for the Advancement of Systems Approaches (A-CASA) at the University of Pennsylvania

The Ackoff Center, named for Dr. Russell L. Ackoff, Anheuser-Busch Professor Emeritus of the Wharton School operates as a think tank in the vanguard of systems thinking. The Center traces its origins back to 1951, when the first American academic program in operations research and an associated, academically-based research group were formed at the Case Institute of Technology by C. West Churchman and Russell L. Ackoff. In 1964, Dr. Ackoff and several colleagues moved to the Wharton School of the University of Pennsylvania.

ACASA is dedicated to education, research and service to industry, government and education, using systems sciences and systems thinking and global knowledge and competency resources.

Under the auspices of ACASA, faculty from Engineering, Wharton, Medicine and other schools at the University of Pennsylvania work on multi-disciplinary research topics. The corporate membership program allows for close liaison with leading edge companies for industry-sponsored research and short-term Fellows and Scholars from industry to work on intellectually challenging projects with standing faculty and students.
One of the principal research thrusts, among others, at ACASA is on how to help distributed human-machine systems (e.g., facilities, organizations, or online communities) to continually adapt and evolve in the presence of complex, emergent environments. The highest level goals of this research are to help such systems “understand” the larger situation they are in, and to choose the course of action that is most effective, not just most efficient (e.g., Pareto optima vs. Nash equilibria).

More information can be found at http://www.acasa.upenn.edu.

The University of Pennsylvania was founded by Benjamin Franklin in 1749, and is the oldest secular university in America. Its Wharton School, founded 1881, is the oldest business school of its kind in the world.

For more information please contact:

Langdon Morris
InnovationLabs LLC
257 Castle Glen Road
Walnut Creek, CA 94595
lponsors@innovationlabs.com
www.innovationlabs.com
(925) 934-1786