Why has IDEO been so innovative over the years?

1. Rapid prototyping
   - Three "R's" : rough, rapid, and right
   - Enlightened trial and error
2. Effective brainstorming
   - Stay focused on the topic
   - Encourage wide ideas
   - Defer judgment to avoid interrupting the flow of ideas
   - Build on the ideas of others
   - Go for quantity and be visual
   - Practice brainstorming with frequency, intensity, and sincerity
3. Well-honed product development process   (refer to Attc. 1)
   - Get clients actively involved
4. Emphasis on consumer observation
   - "The art of innovation is not the business of innovation."
5. A collection of high-energy and creative human capital
6. Well performed managerial practice to affect creativity (refer to Attc. 2)
7. All the above create a IDEO **innovation culture** that has kept it innovative over the years

What can other companies learn from it?

1. Merely imitating IDEO's methodology, such as its prototyping and brainstorming, is not the right way to learn from IDEO's success. Companied should study IDEO's innovation culture and develop one that fits into their own.
   - "Our `secret formula' is actually not very formulaic. It's a blend of methodologies, work practices, culture, and infrastructure. Methodology alone is not enough."   (Tom Kelly)
   - Fostering innovation is mainly about encouraging creative people to relate to one another in creative ways. Accordingly, the prototype is a medium for managing relationships between people, not just for expressing innovative ideas.
2. 3Com and Handspring took the "orchestrator" approach – partnering with IDEO in new product development. Companies have to decide their innovation approach, integrator, orchestrator, or licensor, based upon their own situation. (refer to attc. 3)
3. Turn customers into innovators
   - Listen to consumers' ideas (users observation)
   - Let customers become part of product development process. Approaches include developing a user-friendly tool kit for customers, increasing the flexibility of the production process, evolving the tool kit continually and rapidly to satisfy leading-edge customers, and then adapting business practices accordingly.
   - Customers decide the innovation solution. (refer to Attc. 4)
4. Systematize generation and testing of ideas by establishing Knowledge-brokering Cycle (refer to Attc. 5)

Attachment 1:

IDEO's Product Development Process

Phases		Goal	Actions
Phase 0	Understand /Observe	Determine feasibility of designing a product	Understand new clients and their businesses Study requested products Consumer observation
Phase 1	Visualize /Realize	Have rough models Understand the context Outline manufacturing strategy	Combine ideas, technologies, and market perceptions with users observations
Phase 2	Evaluating /Refining	Develop functional prototypes Resolve technical problems	Emphasis shifts from human factors and ergonomics to engineering Constant communication between subgroups
Phase 3	Implement (detailed engineering)	Complete product design Validate manufacturability	Machine shop work Designers' visit to check reality
Phase 4	Implement (manufacturing liaison)	Ensure smooth product release	Product moved from shop floor to clients factory

Attachment 2:

"Creativity has three parts: expertise, the ability to think flexibly and imaginatively, and motivation. Managers can influence the first two, but doing so is costly and slow. It would be far more effective to increase employees' intrinsic motivation."

> *- from: How to Kill Creativity. Teresa M. Amabile. Harvard Business Review, Sep/Oct98, Vol. 76 Issue 5, p76*

The following table indicates six categories that IDEO utilized to increase employees' intrinsic motivation.

Managerial Practices Affecting Creativity

Six Categories	How Did IDEO do?
Challenge	✓ Successful individuals were assigned more challenging projects
Freedom	✓ Employees themselves designed their office; ✓ No dressing code; ✓ No title ✓ Employees were given much autonomy in processing the project
Resources	✓ Sufficient time and budget ✓ Getting clients involved in budgeting
Work groups features	✓ Diversity in members; ✓ Young members ✓ Expertise; ✓ Shared interest, excitement and teamgoal
Supervisory encouragement	✓ Recognition of innovative effort and achievements?
Organizational support	✓ Flat organizational structure; ✓ Project-oriented work groups; ✓ Information sharing and collaboration between different offices; ✓ Not fostering office politics ✓ Less firing while more promotion and helping employees grow

Attachment 3:

Three Approaches to Innovation

I. Integrator:

   Benefits:

   (1) by being integrators and controlling each link in the chain, companies often assume they can reduce their chances of failure

   Requirements:

   (1) requires manufacturing expertise, marketing skills, and cross-functional cooperation to succeed;

   (2) demands the most up-front investment of all the approaches and takes the most time to commercialize an innovation

II. Orchestrator:

   Benefits:

   (1) usually requires less investment than integrator appoach

   (2) companies can draw on the assets or capabilities of partners, and the orchestrators' own assets and capabilities contribute to only part of the process

   (3) companies often try the orchestrator approach when they want to launch products quickly or reduce investment costs

   Requirements:

   (1) organizations must be adept at managing projects across companies and skilled at developing partnerships

   (2) must also know how to protect intellectual property because the flow of information between partners increases the risk of knowledge theft and piracy

III. Licensor:

   Benefits:

   (1) widely used in industries like biotech and information technology, where the pace of technological change is rapid and risks are big

   (2) can also be used to profit from innovations that didn't fit with inventors' strategies.

   (3) can ask for equity stakes to let the innovator retain an interest in the new product's future

   (4) lowest investment

   Requirements:

   (1) licensors need intellectual property management, legal, and negotiation capabilities in order to succeed

   (2) they must be hard-nosed enough to sell off innovations whenever it makes financial sense, despite the objections of employees who may be attached to the ideas they've developed.

   - from: Innovating for cash. James R. Andrew and Harold L. Sirkin. Harvard Business Review; Sep2003, Vol. 81 Issue 9, p76

Suggestion: Which approach to choose really depends on the industry companies are in, companies capital availability and other factors.
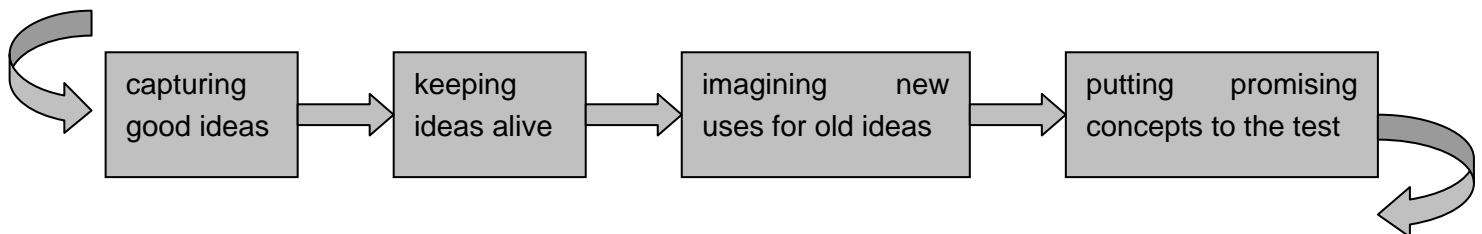
Attachment 4:

"On a purely technical level, the idiosyncratic Graffiti interface software that Palm developed was far less elegant than the handwriting-recognition software developed by Apple for its Newton PDA. But it turned out millions of people were willing to take the time to learn how to write in Graffiti. Meanwhile, few people had the patience to wait for the "buggier' software on a Newton to learn how to recognize their own scribbling. The less inventive technical accomplishment, the one that actually made more demands on the user at first, became the undisputed market leader. It turned out to be the more innovative solution, and a very cost-effective surprise."

- from : " Playing Around with Brainstorming". Michael Schrage. Harvard Business Review; Mar2001, Vol. 79 Issue 3, p149

Lesson learned here is to use consumers' eyes instead of designers' to assess innovation.

Attachment 5:


```
capturing        →    keeping          →    imagining    new   →    putting    promising
good ideas            ideas alive           uses for old ideas         concepts to the test
```

(1) capturing good ideas
   New ideas can be from old ideas, and from doing focused work on specific problems, especially when studying new industries or visiting new locations
(2) keeping ideas alive
   constant discussion;
   embedding ideas in tangible objects, such as models
   spreading information about who knows what
(3) imagining new uses for old ideas
   analogical thinking
   sharing information (companywide gatherings, formal brainstorming sessions, and informal hallway conversations)
(4) putting promising concepts to the test
   use prototypes, experiments, simulations, models, and pilot programs to test and refine ideas
   - from: Building an Innovation Factory. Andrew Hargadon and Robert I. Sutton. Harvard Business Review; May/Jun2000, Vol. 78 Issue 3, p157

Suggestion:
Business leaders must change how they think about innovation and must change how their company cultures reflect that thinking. Innovation can be bolstered anywhere if people are given opportunities and rewards for taking good ideas. Innovations are a matter of taking developed ideas and applying them in new situations.
   - right connections and the right attitude