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Tips for generating innovative new product ideas from the electronics industry

By Jody Singleton

Successful organizations worldwide realize how important it is to their success to nourish creativity and innovation. Innovation is, after all, the vanguard to increased competitiveness. In my years of experience in the development of innovative electronic products, innovation challenges have necessitated the gathering and practice of techniques from many arenas.

Here are a few ideas that we have developed in my company. I hope that they will help you to expand and enable innovation in your organization, too.

Environment for innovation

To build an environment good for innovation there must be an organizational climate that encourages, supports and rewards innovative effort. Executives must say and show, through incentives, rewards and recognition that the organization needs and will listen to the ideas of every one of its people.

Add urgency

Capturing markets is urgent for companies – pass it on. Adding a sense of urgency to and making innovation a key to the company's security and growth can generate great new ideas.

Embrace the obstacles

It could mean your ideas aren't yet groundbreaking enough to invigorate the organization, let alone capture a market if there is nothing in the way of a new idea. Keep pushing; it is frequently a new approach to major obstacles that ends up resulting in real innovation.

Create your own evaluation tools

Create simple tools such as a list of 10 questions of factors to vet your innovations. Have everyone one on the team participates. This lets everyone get in on the action and have buy-in while keeping evaluation costs down. Chances are you're making the evaluation process too easy if more than 1 or 2 out of 20 ideas make it through the gamut.

Find ways to nurture volunteerism

Many people are willing to give up some of their time for great ideas. Find ways to nurture willingness, it is a powerful asset. Sometimes that means giving volunteers a project they have been interested in, or re-delegating tasks in order to free-up their time so they can help a project that could use their expertise and other times it is as simple as giving them kudos in the company news letter.

Promote it within the organization, keep it out in the open instead of a secret project or "skunk works". Secret projects run counter to the idea that everyone can have great ideas. Innovation rarely happens behind closed doors.

Innovation pipeline

Innovation is not magic. Peter Drucker has called it "hard, focused, purposeful work." Make innovation a permanent part of the everyday process. Build it in to checklists for everyday efforts and carve out time in strategic planning specifically for it. Use tools like an intranet to keep people current on what's new and exciting so that they can contribute too. The company that competes through innovation is one that has made the process of innovation a part of its daily operation.

Begin with self-appraisal

It's not enough to wait for others to act; individual initiative is must to initiate the process of innovation. Gather data on what must be changed in order to stimulate innovation and establish priorities, outline actions to build the innovative process in your organization and start! Re-evaluate your innovation outline every year.

Get outside help if necessary

There are plenty of professional groups whose main business, like Advantage Electronic Product Development, is the development of new and innovative products.

Look right under your nose

Every time a team or company believes that its device is about as good as possible, someone else comes out with a better idea or product. Many overlooked discoveries were right beneath their noses. Key discoveries that are frequently overlooked are not necessarily difficult, so question every assumption and look again with a fresh pair of eyes.

Simplify

Keep in mind that technological elegance is simplicity, not complexity. Review ideas and innovations specifically for ways to simplify. Then, consider this simplification idea throughout the full life cycle of the product, manufacturing, upgrades and so forth.

Set goals for it

People accomplish more when they're trying for goals which are challenging, (even "impossible") and clear, than they do when trying for any other type of goal. Goals drive action directly by affecting what people pay attention to, how hard they work, and how long they work at something. Assigning creativity goals is as effective as other types of goals, such as productivity goals.

"Re-package" borrowed ideas

The insufferable lebur inspired the idea for Velcro for the space program. Pringles Potato Chips were conceived after seeing wet leaves, which stack compactly without being damaged

Questions like these should be part of any innovation process:

- "Where can I find an idea?"
- "What ideas can I modify to fit my problem?"
- "How is something similar done in nature"
- "What else is like this?"
- "What have others done?"

Brainstorm

Brainstorming is considered a group technique, but an individual can brainstorm alone. A small group, with 10 or 12 members is recommended. The most effective way to brainstorm is to have everyone leave any though of criticism at the door. Even preposterous ideas have later been groomed into fabulous innovations.

Substitution

Identify the key characteristics, or attributes, of the product. Then think up ways to change, or improve each of these, (called the "Substitution Method" in design engineering). "Disassemble" a product into its various characteristics for example, it functions, physical characteristics size, shape, color. Make a game out of inventing alterations for each of these characteristics and carefully address obstacles.

Conclusion

Innovation doesn't have to be complicated or expensive. Care needs to be taken to ensure your creative strategy evolves in a way that will fit your organization. Then your organization can

achieve its innovation objectives. Developing and improving good ideas can net breakthrough advances and the reward these efforts.

Advantage Electronic Product Development Inc. is an NPD/NPI (New Product Development/Introduction) firm providing clients with turnkey electrical engineering, design and manufacturing solutions for the prototype and small scale production phase of product development.

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