Software and Vector Math – A New Approach to Innovation in the Consumer Electronics Industry

Dealing With Darwin in Consumer Electronics

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Consumer Electronics (CE) has always been synonymous with innovation. Consumer Electronics makes our lives easier, connects us to the world and each other, and makes it all fun. It's an industry that survives on new products and where new business models are born and later adopted by other industries. It's also an industry with a great opportunity to rethink Innovation as we enter 2009.

Rehashing the economic challenges of 2009 shouldn't be necessary; the impact has been and will remain profound. This economic downturn makes the need for new innovation thinking even greater because CE companies can't just stop innovating! New products are the language that a CE company speaks with the market, but in 2009, the market may be a little hard of hearing.

Companies need to focus their innovation efforts and devise new ways to fund innovation internally. We suggest using the models of *Innovation Vectors* defined in <u>Dealing with Darwin</u> by our Partner, Geoffrey Moore, to find that focus. Choosing the right vector can provide top-down focus on innovation at a critical time.

Specifically where can companies improve on innovation? Companies are too focused on feature innovation and only innovating their products. Great opportunities exist to innovate Value Chains and the way companies relate to their customers. Let's take a closer look at four innovation opportunities in Consumer Electronics.

The Innovation Opportunities

1. <u>Focus less on product</u>. This is a tough pill to swallow for a firm that has spent its entire life designing, building, and selling "things". Don't get us wrong here, product is still important; the *Innovation Vectors* in the *Product Leadership* discipline can still yield differentiation. But it is getting harder and harder and more companies are developing innovations that only neutralize their competitor's efforts, not generating real economic results.

   Examples of *Product Leadership* innovations that only neutralize include two product categories that continue to confound; flat-panel TVs and printers. True *Product Innovations* in the flat-panel TV category are rare. Let us propose two alternate paths that seem better than the feature "tit-for-tat". First are opportunities to innovate in the value chain, one example being Pioneer getting completely out of production. Is this a sign that they've failed in manufacturing via the plasma route or are they finally free? The second is focusing on 3-D TV like Mitsubishi or

Samsung. 3-D is the next true *Disruptive Innovation* in TV and companies that stake out a position of power will see commensurate returns.

Printer innovations are chronically a "suckers bet" – one firm offers wireless printing, others neutralize; print directly from an SD card, others neutralize; create an "all-in-one" model, others neutralize. No one wins.

In these cases, one still has to innovate to keep up, but that implies a very different level of spend than innovating to get—and stay—ahead.

2. Understand vector math as it applies to innovation. Remember vector math from physics? Well even if you didn't take physics, it's pretty simple. Think of it like this: organic innovation is helpful, an idea here, one here. But without top-down innovation strategy channeling all the innovation energy in one direction or *vector*, different innovations can cancel each other out and risk adding no real value at all. In Brad Garlinghouse's (Yahoo!) famous "Peanut Butter Manifesto", he described this situation as "a thin layer of investment spread across everything we do and thus we focus on nothing in particular." In CE terms it's more product functions + a Father's Day promotion + a bundle with XYZ—all "good things," but nothing that will truly set your offer apart and garner the bargaining power you need, especially in a downturn.

3. Change your definition of Innovation. Don't settle for "something that is new and different." Rather insist on "that which creates significant competitive separation." We describe it as "escape velocity" from your current competitors. Too many innovations don't go far enough; they simply match competitor's efforts or go a little bit past them, but not so far that they cannot catch up in their next release. When evaluating features or line extensions, companies should always ask "does this achieve significant competitive separation?" and test themselves with questions like "yes customers like this and it solves a problem, but will they pay for it?" Particularly in a downturn the answer is too often "no." Then what have you innovated for?

   The ultimate example of significant competitive separation is Apple, and they did it twice in the last 10 years first with iPod and iTunes and then with the iPhone. In both cases they moved so far out of their competitive circle that the entire industry had to reorganize around them. Not everyone can do this, but everyone can create true competitive separation for some market segment, if, that is, they change their definition of innovation.

4. Differentiate between growth markets and mature markets when developing an Innovation strategy. As categories mature, the market dynamics change and different *Innovation Vectors* yield different returns. If one of your products lives in a mature market (printers, flat panel TVs, MP3 players) companies should evaluate *Operational Excellence* (innovating your Value Chain) and *Customer Intima*cy (innovating your relationship with your customer) innovations (see attached diagram) more closely. A great example of *Customer Intimate* innovation for a mature

market company is Dell and the tremendous work they have done reaching out to their customers using Web 2.0 technologies. The market has become commoditized and additional product features will bring you less of a return.

The software lens: the key to Innovation in CE

Consumer Electronics' companies should be looking to exploit software in their innovation strategies. This needs to be called out because leveraging software can be a significant cultural change to many CE companies as CE historically means “hardware”. Most companies that show at CES design, build, and ship “things”. But in 2009, it is essential that CE companies consider the power of software. iTunes was the software that powered the iPod into complete market domination through *Disruptive Innovation*. And again, with the iPhone, Apple’s early success was a *Product Innovation* (features and functions). But the follow-on “App Store” is *Platform Innovation* and a pure software play that is propelling the iPhone further into the mass market.

Pioneer Mobile Electronics has leveraged Social Computing software to achieve competitive separation through *Experiential Innovation* in their channel with the Mobile Electronics Live (MEL) platform. MEL links after-market stereo installers to each other and to Pioneer promoting idea sharing, training, and support in a private “Facebook-like” community. Despite making after-market speakers, radios, and GPS devices, Pioneer’s leadership recognized that in their mature market a *Customer Intimate* innovation was their only play.

Dell is using Social Computing software to dramatically change their customer's experience through *Experiential Innovation.* Dell now has a vast collection of community sites including Direct2Dell, IdeaStorm, Studio Dell, and dozens of forums in every language. Dell has seen a significant improvement in the positive tone of conversation about Dell on the web.

Microsoft is quietly disrupting the entire In-car infotainment category with *Microsoft Auto* (known by many through Ford's implementation *Sync*). *Microsoft Auto* is a great example of *Platform Innovation* and is completely dis-intermediating the traditional radio, GPS, and satellite providers with one device powered by a software platform. One GPS provider that takes in-car one step further with the help of software is *Dash*. *Dash* provides an internet connected in-car GPS that guides you through traffic problems through "crowd sourcing" the fastest route from other Dash users. Software is leveraged so that maps can be updated and searches are real time on the web, not based on the data available when you bought your device.

Consumer Electronics' companies can win by considering software in their Innovation strategy; Software that changes your products at the core, software that changes how you relate to your customers and channel and how they relate to each other.

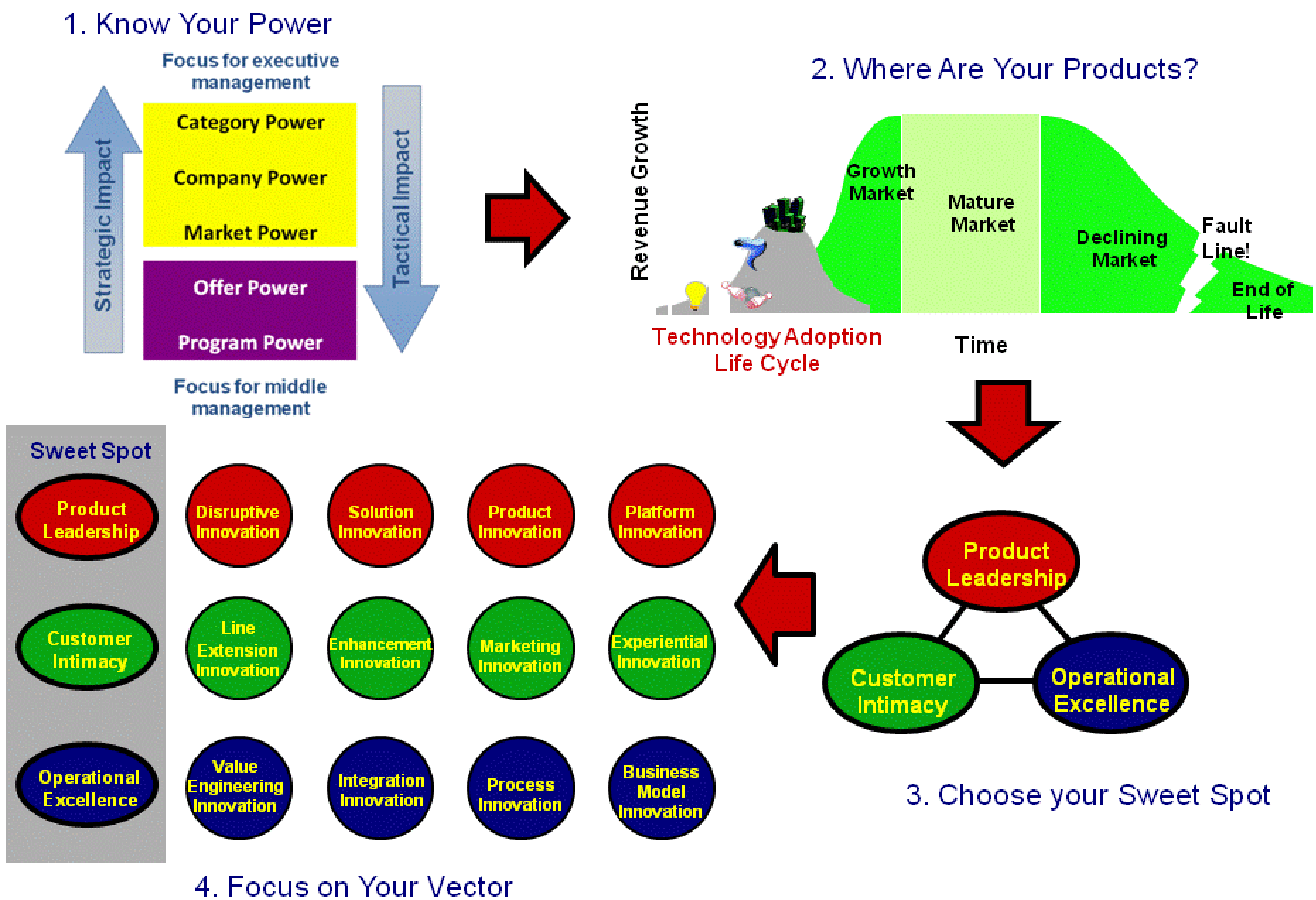
Software and a Structured Approach Is the Answer

Software alone will not win in CE. Leveraging the Innovation types outlined in Dealing with Darwin is essential to develop a top-down Innovation strategy that will guide your company. Software is a tool, and one that can be leveraged to great advantage, but it is not a strategy.

We suggest an approach (see attached diagram) to thinking through both where your company is and which *Innovation Vector* will lead to the best returns. To select the right *vector* our experience has shown that a company needs to:

1. Know Your Power – It's critical to start with a deep understanding the "power of your products." What categories are we in and are they powerful categories? Who defines these categories and are we powerful in them? Consider the iPhone once more. The "mobile phone" category remains a strong category and is expected to continue to grow globally particularly as it morphs into the "mobile internet surfing" category. So any company in this category is well served. Now consider the case of Apple's iPhone – when carriers other than AT&T will provide an iPhone is the subject of massive speculation. But one thing is clear, Apple has unprecedented power over the carriers. This power is the "jealous rage" of the mobile phone industry.
2. Where are your Products? Assess where your products are in the Category Maturity Lifecycle. This is the discipline of asking not "what do we want to be," but "what will the market let us be?" A significant % of the Consumer Electronics industry's thousands of new products announced each year are in a mature category. Consider so many of the examples in this paper – printers, flat-panel TVs, mobile phones; add to that PCs, laptops, and storage. This means that *Product Leadership* innovation opportunities are limited. And if one is being sought, it needs to truly differentiate, not just match or neutralize competitor's efforts.
3. Choose your Sweet Spot. Based on where your products are in the Category Maturity Lifecycle decide which "discipline" (*Product Leadership, Operational Excellence, or Customer Intimacy*) will provide the best return. Dell, a traditional stalwart of the *Operational Excellence* discipline has made significant strides in *Customer Intimacy* through their Community efforts and their association with (RED). Not to completely abandon their *Operational Excellence* history, Dell has also innovated their value-chain by completely exiting manufacturing. Search Google for "new product Dell" and you will find very few interesting things to read. You have similar challenges trying to find Dell's booth at CES, there isn't one.
4. Focus on your Vector. Pick your *Innovation Vector* in your discipline from the 12 vectors defined in Dealing with Darwin. Selecting one vector for each Business Unit or product category will focus your enterprise and put "more wood behind fewer arrows."

Last, but not least, be thoughtful about how you are going to fund innovation in your enterprise. Budgets have shrunk, appetites for risk are down, yet investing now can provide some of the best returns your company may ever experience.


1. Know Your Power
Focus for executive management
Strategic Impact
Category Power
Company Power
Market Power
Offer Power
Program Power
Tactical Impact
Focus for middle management
2. Where Are Your Products?
Revenue Growth
Growth Market
Mature Market
Declining Market
Fault Line!
End of Life
Technology Adoption Life Cycle
Time
3. Choose your Sweet Spot
Product Leadership
Customer Intimacy
Operational Excellence
Sweet Spot
Product Leadership
Customer Intimacy
Operational Excellence
Disruptive Innovation
Solution Innovation
Product Innovation
Platform Innovation
Line Extension Innovation
Enhancement Innovation
Marketing Innovation
Experiential Innovation
Value Engineering Innovation
Integration Innovation
Process Innovation
Business Model Innovation
4. Focus on Your Vector