The 2-year itch.

Building a successful consumer hardware company.

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Introduction

Building a robot company is difficult, very difficult. It requires unwavering belief in yourself, in your idea, in your team and ultimately in your product. But it is also one of the most thrilling experiences of anyone's career. Why? Because people love robots, especially really cool robots. Robots are the reflection of us, in our belief in technology, in our ambition to shape the future. Robots are the exploration between people and machines, the science of artificial intelligence, AI. They test our theory of life, how we think, how we behave and how we want technology to interact with us.

I began my journey into the world of robots in 2003 when I met Caleb Chung, the creator of Furby and a master puppeteer. Caleb discovered a way to manipulate robots through the use of an adapted motion capture suit that mimicked the balance and movement of animals. The result was so surreal and uncanny; a seemingly simple device stitched together by hobby servos, wires and RadioShack batteries began to move as if it were alive, thinking and behaving like organic life. I felt the urge to touch it, to pet it.

At that moment I knew this invention was more then just an idea, it was a platform for creating life like robots, for blurring the line between people and machines. This was the genesis of Ugobe, the architect and maker of Pleo.

Caleb and I decided to launch our big idea at CES in 2004 where we met Greg Appelhof of TRG. Greg represents consumer tech companies such as Harmon Kardon and Griffin Technologies into Best Buy, Target and other tier 1 retailers. Greg encouraged us to launch Pleo into retail after describing WoWee's success with Robosapien selling over 190,000 units through retail channels. He believed in our vision to change the robot category to our benefit. Retailers viewed robots as the next big thing and were hungry for innovative products and solutions.

On the heels of our meeting with Greg we developed a financial model and go to market plan for Ugobe. Greg became our strategic partner helping us with strategy, US & European distribution and helping us with Asia pricing and positioning. Greg guided many of our critical company decisions including target BOMs, margins, price points, product positioning and retail ramp.

After a trail of endless demos and mindless meetings with investors who loved robots but didn't invest in them I eventually raised $26MM for Ugobe. I also forged a strategic partnership with Terry Gou of Foxconn and built a worldwide distribution network with tier 1 partners. We attracted the best and brightest people from Apple, Lucas Arts, EA, Blizzard, HP and Google. Our customers included Nolan Bushnell, Vladimir Putin, Jet Li, Steve Wozniak, Sean Parker and many Silicon Valley luminaries. We learned to stay up late so we could communicate with Asia and wake up early to support our European partners. It took a long time to build Ugobe but it feels like a brief and brilliant moment.

Pleo and the unfortunate exit of Ugobe 4 years ago is now robot lore. But what is not known is why we failed and how we could have succeeded if we knew about the **2-year itch**.

Summary

The premise: it takes 2 years of retail sales before a consumer product company succeeds or fails. The first year is a honeymoon year, the second year is the adjustment year. If companies go out too fast the first year they'll hurt their chances of a successful second year, i.e. inventory challenges, markdowns, brand issues and retailer backlash. However if companies don't show demand and strong interest the first year they'll miss the opportunity to drive retail growth and sales the second year. The companies that succeed learn how to manage the **2-year itch**.

Of course retailers won't tell you this. It's not their job to manage your channel sales strategy or help you resolve inventory issues. Retailers are merchants, they need to position products in ways that bring people into stores and away from their competitors.

To harmonize retail sales with operations, manufacturing and finance you need 2 years of revenue experience. The complexities of vendor financing, retail payments and operational float are beyond the ability of any 1st year hardware company to properly synthesize.

In order to understand retail terms you need to understand your manufacturing terms. How much product can you afford to manufacture before you are paid by retailers? And what if retailers delay payment or return product due to weak consumer demand or quality issues? Is your manufacturer startup friendly, do they understand the cash challenges of a new company? Will they defer tooling costs or amortize into your COGs? How do they manage finished but unshipped product? Do they offer production line inspections, tooling review and product bench testing?

Setting up the right parameters with your manufacturer is key to your survival. Knowing what to avoid and what to leverage with manufacturers is part of the 2-year itch learning process. Of all the consumer hardware companies I know or advise manufacturer relationships are always challenging and often misunderstood. Manufacturers think in bulk quantities, supplier relationships and COGs (or ex-factory). They don't adjust fluidly to changes in product design or production quantities.

To truly manage the 2-year itch you need a strategy that anticipates the challenges and opportunities inherent with hardware companies. You need a model that sustains you through the acceleration of retail sales and positions you for growth in years 3, 4 and 5. The 3rd year is your "bump" year when you'll scale revenues, market reach and retail presence. After your 5th year you should anticipate a successful exit or a larger financing round that transforms you into a recognizable brand, i.e. think SkullCandy, GoPro or Leapfrog.

The 7 pillars of success.

In the development of your company you need to prepare for 7 key variables. These are Customer Support, Company Vision, Product Development, Retail Sales, Manufacturing, R&D/Engineering and Logistics. Each of these variables contains it's own classification of sub variables and resources.

These variables are called the 7 pillars of success:

1. **Build Community Support;** leverage the wisdom of customer driven communities to understand and support your product. Be open and honest with customers even when you're not perfect. Customers will forgive you for mistakes and celebrate your successes. Making customers happy is core to your success. A great R&D resource for product improvements.
2. **Create Emotional Belief;** create a company narrative that builds trust and inspires "Emotional Belief" in your product that you'll communicate to media, partners, distributors and ultimately to your customers. This is the soul of your company that sets the tone for culture, creativity and community. "Emotional Belief" in your product drives sales not features and benefits.
3. **Iterate fast, integrate carefully;** continually test your products for improvements to UX and design. The sooner you discover flaws the sooner you will lower warranty and customer return challenges. Learn to

integrate changes to your design and ultimately your manufacturing process carefully and with methodical review.

4. **Manage retail shrink;** keep retail interested but not satisfied. You need to continually shrink your on-shelf inventory through consumer pull, media coverage and nimble forecasts. Retail cost centers that don't drive sales could kill a start up through inventory write-downs, product returns and warranty issues. Otherwise known as your "Demand Coefficient."
5. **Underwrite manufacturing;** underwrite the cost of goods and supply chain through Letters of Credit, Distributor deposits and extended terms with vendors. How you manage manufacturing and related financing will determine revenue acceleration or roadblocks to your growth.
6. **Focus Engineering;** innovation is core to any startup but R&D needs to live outside of product engineering. Developing a respected hand-off process between R&D with Product Engineering is required for manufacturing and supports continued innovation of your product.
7. **Partner on logistics;** inventory management and retail support are core functions that require partnerships. The moment your product leaves the factory you need partnerships for delivery into retail and to global distributors. After your product is purchased you need partnerships to review/handle product issues with engineering and manufacturing.

Your company is 3-Dimensional.

Perhaps you think as most entrepreneurs… you create, build and sell great products. That's all that counts! After all Steve Jobs tells us to "think different", create products that inspire people. He is absolutely right! But to make great products you must build great companies. It's not just about innovation, design and cross platform integration with cloud Saas services. There's a required value chain that takes a concept and turns it into product magic that people love. The value chain is the core of your company, it's the machine that either works or doesn't work.

We spent a lot of time breaking the rules and challenging the way companies designed and built products at Ugobe. We didn't want to be a toy company and we didn't want to be a robot company. We wanted to create our own reality, our own products that defined an entirely new product category of "LifeForms". Admittedly we frustrated retailers (we turned down toy retailers and QVC) and we refused to give into the traditions of Chinese toy manufacturers. Ultimately we pulled it off and created our own set of rules but we also learned hard and fast about the rules you cannot change.

What are the rules of building a great company? Know your limitations and how to operate efficiently. After costly consultants from Apple, Atari and Leapfrog we learned our company is divided into 3 core functional areas. These are Development, Sales (Revenues) and Operations. Sales is obviously the engine that generates revenues and pays for all things. However Development and Operations are a little more difficult since they cross pollinate with many parts of your company.

Some of the key takeaways from our experience: Finance and Manufacturing are codependent and drive your cash flow. Sales drives Finance but is codependent on Marketing/PR and Brand. R&D and Engineering are codependent but require different types of skills and disciplines. Customer Support is codependent on Logistics and Manufacturing.

Here are the three functional areas and their related departmental areas:

Development	Sales	Operations
R&D	Marketing	Manufacturing
Engineering	Retail	Finance
Product Design	Brand	Customer Support
User Testing	PR	Logistics
Innovation	Social	Supply Chain

Product Development

The Product Development Process is a continual thread that unites all parts of your company. Each of your three functional areas will participate in your development process at different stages. At the executive level your team will monitor and manage the Product Development Process for key insights, ideas, feedback and related responsibilities of their respective departments. A CEO/founder may be the visionary leader and chief product concept person but they need the input and support of the executive team and ultimately the company to achieve results.

We wrestled with a lengthy Product Development Process inherited from Apple through the involvement of one of our consultants. As we quickly learned everyone has an opinion on the development process and what checks/balances we needed to succeed. It was less a question of who's responsibility is what, it was more a question of when does a department hand off the project to the next group/team. Once Foxconn became involved we integrated their development process ideas as well. Needless to say we did a lot of “weeding out” of unnecessary processes and procedures.

Eventually we arrived at a nimble Product Development Process that accelerated ideas/improvements without causing havoc to our engineering and manufacturing teams. You may think this is a waste of time to a small startup or fledgling new product group but it’s the lifeblood of your company. Learning how to manage improvements to existing products or launching new products requires a well understood and supported development process. Apple’s Product Development Process is legendary and obviously results in great products. This does not happen by accident. The trick is keeping the magic of your vision and creativity alive during your development process that results in the “ah hah” customer experience with your product.

Innovators dilemma

A key aspect of any startup is innovation. How do you maintain your innovative edge while building your company? It’s not an easy balancing act especially when you have additional stakeholders who will participate in your Product Development Process as defined above. This is where many companies trip over themselves, both large Fortune 1000s and small, nimble start ups. It’s not because people are not innovative, creative and smart. It’s because they don’t know how to manage innovation throughout the Product Development Process.

There is a common saying “death by committee” that applies here. When you assemble a small group of people into a committee with decision authority you’ll quickly discover how groups behave differently then individuals. Everyone wants to be heard and weigh in on critical decisions, especially if they are co founders. What was once a great idea becomes diluted down to an interesting idea that may or may not represent your original innovation. How do you manage to avoid this trap? Well, for most companies it’s rigorous processes and well managed checks and balances between stakeholders. But that only keeps decisions civil and respectful between people, it does not support innovation.

The trick is to know your core tenants and be religiously faithful to them. What are core tenants? They are the attributes and values of your company and related products that don’t change. Your core tenants are undeniably why you starting a company and built a team around you. They are the magic in your vision and the opportunity your company represents.

For example your core tenants could be to inspire people through design, make life more enjoyable through great product experiences, be open and transparent with your customers, create a fun place to work, redefine how people connect with each other through your products or help people live more healthier lives. Your core tenants define your core principals as a person, a company and as a product.

At Ugobe a few of our core tenants were to create disbelief through magical product experiences, inspire people to feel empathy for Pleo, to make complex technology feel simple and elegant, and to be open and transparent with our company. We used our core tenants to guide our Product Development decisions and ideas. There were many moments we could have strayed from these tenants and diluted the promise of Pleo. But we reminded ourselves time and time again how important these tenants were to our company and Pleo. As a result we built something magical that continues to inspire people to this day.

For your company I suggest a full day roundtable meeting to discuss what your core tenants are. You may want to include Advisors and people you respect in your meeting for outside perspective. Undoubtedly you'll revisit your core tenants to make adjustments or challenge them. But that's normal so don't worry. What's important is that you develop a list of 5 to 10 core tenants (anything more is impossible to manage) and religiously remember them in all of your Product Development decisions.

Your core tenants also apply to brand, marketing and strategic decisions as well since they define your company. The mistake you want to avoid is to get too wrapped up in your first product and not think about the bigger brand promise your company represents. After all, you're defining a relationship with consumers that you control. Understanding your core tenants will help you build that relationship while keeping your innovative edge.

Strategy

Retailer strategy is different for each brand and store location. Best Buy is a different experience then Target or Office Depot. They manage their seasonal purchases and pricing strategy differently. Apple for example resets new products monthly while Target resets twice a year. Online merchants like Amazon, Fab, UrbanDaddy, Gilt Groupe and TheFancy all have different approaches to inventory management and financial terms. Understanding their differences and how they align to your product strategy to them is key to managing the **2-year itch**.

Retailers forecast are built on seasonal plan-o-grams for different departments and product categories. Plan-o-grams are design layouts of product placement, themes and special promotions that align to retailer goals and merchandising aesthetics. New products introductions don't normally fit within plan-o-grams without some measure of predictability. Retailers build forecasts based on previous years sales. Without previous sales new product introductions are outside the comfort zone of retailers and hence their plan-o-grams. By your second year in retail you'll begin to fit within retailer forecasts and their plan-o-grams. However retailers will not aggressively scale forecasts until your third year. You can build momentum between the first and second year and, in some cases fully leverage retailer plan-o-grams depending how strategic your product is to their overall goals.

Retailers are good market testers. They'll promote and circulate your product to their advantage. Retailers like Target and Wallmart have sophisticated store analytics systems that measures sales by the minute and predict trends automatically. Once someone buys your product retailers capture consumer demographics and sales velocity. However when sales numbers soften or slow down retailers will adjust quickly. It's important to understand their buying strategy and reset decisions. When do they reassess new product decisions, what sales metrics do they expect, how much marketing/PR support do they need from you? Although you may understand their needs upfront it takes coordination across your company and supply chain (including manufacturing) to properly respond and adjust. What may be success to you could be considered marginal to a retailer or distributor partner.

At Ugobe we decided to launch online and with Sharper Image (stores + catalogue) for the US market. We could not fulfill big box retailer requirements of minimum quantities and delivery dates. We also felt big box retailers didn't "get" Pleo, they wanted to place it in the toy section or as a special end-cap display for the Holidays. We met with the senior management teams from RadioShack, BestBuy, Sharper Image, CompUSA, Fry's, Target and Brookstone. RadioShack was very amenable to our ideas but we were concerned about in store demos and merchandising of Pleo. Sharper Image was aggressive and offered great ideas for how to promote Pleo and the LifeForms category. Unfortunately they went bankrupt immediately following the 2008 Holiday Season and left us with $500,000 in uncollected revenues.

Thankfully we survived the Sharper Image debacle through strong online sales and European distributors who craved Pleo for their robot hungry audiences. However it was the Russian market that surprised us. They loved Pleo and clamored for more shipments and marketing material in Russian language (our Marketing & Sales teams were working overtime!).

We learned the value of PR and how to leverage media reviews to the benefit of retail sales. Our vision of life like robots infected the media, they believed in the promise of Pleo. Hence, building a great vision and narrative story about your product is a key ingredient to building your sales momentum. People buy on “Emotional Belief” not features & benefits. If people believe in the promise of your product then they’ll respond accordingly. The same is true for retailers and the media. They need to believe in your product, in your vision before they will invest time in you.

If the consumer experience with your product is weak or mishandled then no retailer can save you. Hence consumer companies must balance the perceived value of their product with the ongoing consumer experience. The consumer experience is not limited to your product; it extends to customer support, online community, retail positioning, brand promise and media coverage. It includes your packaging, your support materials and your online presence. And most importantly consumer experience is affected by how quickly you improve/adjust your product experience to consumer expectations.

Retail shrink

Consumer companies need to manage “retail shrink”, the demand coefficient for their product on retail shelves. Retail shrink is sales per day (divided by) inventory (multiplied by) reorder lag. For example 1 sale per day divided by 30 units multiplied by 30-day reorder lag is 1: 1/30 (x) 30 = 1. Your retail shrink should be 1 or greater. If you sell 2 units per day under the same scenario your retail shrink is 2: 2/30 (x) 30 = 2. Retail shrink of 1 or greater gives you control of inventory movement. Retail shrink of less then 1 gives retailers control of inventory movement. This is a key variable in calculating your retail strategy and financial modeling.

How do you forecast retail shrink? Carefully. A well-known education toy company improperly forecasted retail shrink for a Holiday Season and was left with a huge inventory dilemma that nearly ruined them financially. They were able to mark down their product through discount retailers but their brand value suffered as a consequence. Other consumer product companies have faced similar challenges with ambitious sales people and anxious investors who want to ride the Holiday Season shopping wave to their advantage.

I learned from my partners at Foxconn how one of their prominent brand clients manages retail shrink with high precision. Foxconn underwrites the logistics by shipping direct from their factory to store locations and distributors. Reverse logistics is handled in a similar fashion. It's an amazing process with a high degree of efficiency that would make any Operations Executive envious. Thankfully their processes and approach are reproducible with the correct resources and methodology.

The levers to control retail shrink are PR/Marketing, online placement, media coverage, retailer promotions, in store training and consumer reviews. In each case sales per day is affected by a one time or ongoing algorithmic variable.

Retail shrink is an example of how your business model is dependent on a number of interconnected variables. Your retail sales is connected to the consumer experience, the cost of goods, product packaging, brand promise, online community and manufacturing. If your manufacturing quality is faulty and your customer support is poor then retail sales will suffer. Great press and media reviews will bump your retail sales but you'll need great customer experience to maintain your momentum.

Finance is key.

Finance is either your friend or enemy. You'll learn to treat finance with kit gloves and special care if you intend to live beyond 2 years. Finance is directly connected to your manufacturing and retail sales, essentially the bookends to your business model. Finance is cash preservation with seductive leverage if applied correctly.

At Ugobe we learned to manage cash in all of our decisions. Every department developed their own budget and financial plan. It was tedious but needed. Eventually we knew how much money we could spend weekly, when we could hire someone and how much we could spend on goods and services. We thought strategically and talked in numbers. Retail sales, production quantities and COGs were closely watched; we understood when we were cash challenged and when we were cash rich.

Thinking in terms of financial metrics is a required habit for consumer hardware companies. It will shape your leadership team into results driven executive staff with a common language for company decisions. Finance should not restrict your decisions, only guide them.

There is a delicate dance between finance, retail sales, manufacturing, R&D and operations. Your not building a software company that can afford mistakes in product releases. You are building a consumer hardware company that requires nimble and methodical controls before each product release. But once you learn how to manage your 2-year itch you'll master finance and the opportunities your product revenues bring you.

Conclusion

Is it worth building a consumer hardware company after all these challenges? Yes, if you are building something of enduring value to consumers then you'll be rewarded. Consumer hardware companies grow fast if properly managed in relation to revenues and satisfied customers.

Investors and VCs are increasingly interested in smart consumer hardware companies with a Saas model. Examples include Fitbit, LARK, Pebble and GoPro. Hardware devices are great data collectors that deliver smart services in the cloud. The more I sleep, walk or perform different activities the more I am rewarded through rich data to share and consume. Consumers are discovering the rich fabric of interconnected devices that blend their world between mobile, social and the web.

Applications like Life Streaming or sensor aware health monitoring are peeking the interest of a new gadget savvy consumer. And of course people still love robots, especially if they do cool things like interact with their smartphone, i.e. Sphero, Romo or stealth company Robot 11 that promises to change interactive gaming.

With the cost of components decreasing rapidly and the appetite of China manufacturers to participate with early stage hardware companies the atmosphere is ripe with opportunity. Cameras, motors, CPUs and sensors are affordable thanks the evolution of smartphones. What was considered exotic by "Makers" (Make magazine hobbyist and builders) is now approachable for mass consumption and integration.

Companies like PCH in Shenzhen offer startups early stage engineering resources, prototyping and manufacturing. Other groups like Astro, Artefact Group, Lunar and Function Engineering also offer early stage ideation and prototyping. Hardware friendly incubators like Lemno Labs offer seed stage investments of $50,000 to hardware startups. And we are learning of more super Angels and VC groups interested in connected, smart device deals.

In other words the timing has never been better to start a consumer hardware company.

As someone who has walked in your shoes down the consumer hardware path before I greatly respect and appreciate your vision. However I don't want you to suffer the same fate as Ugobe. That's why we're committed to helping consumer hardware companies understand and master the **2-year itch.**

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