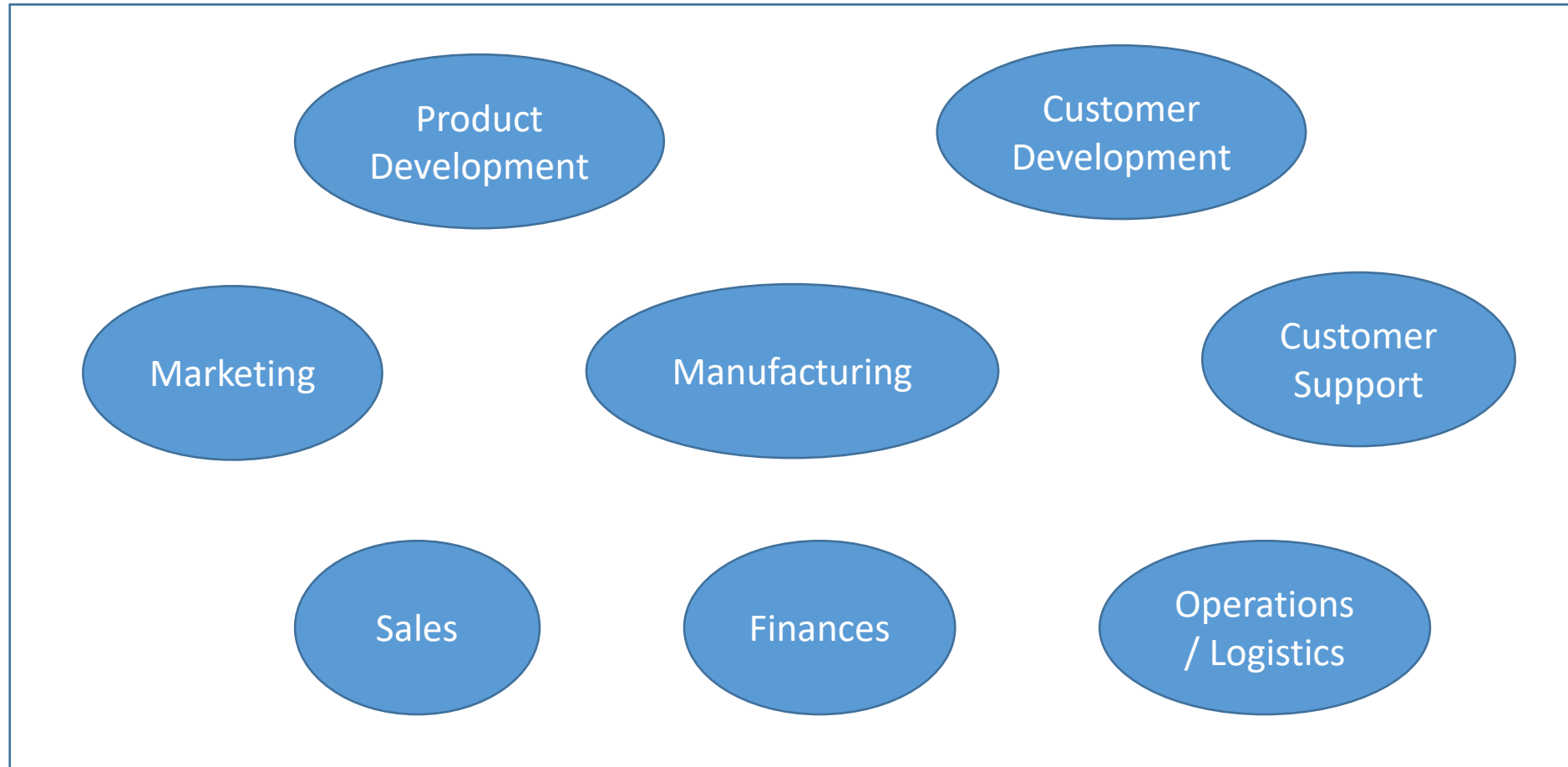


HARDWARE ACADEMY

How to Build a Hardware Company
and Not Just a Hardware Product

Parts of a Hardware Company



Hardware company

Course Overview

Lesson 1 – Business structures

Lesson 2 – Business models

Lesson 3 – Marketing

Lesson 4 – Customer development

Lesson 5 – Product development

Lesson 6 – Manufacturing

Lesson 7 – Operations / Logistics

Lesson 8 – Finances

Lesson 9 – Sales

Lesson 10 – Customer Support



Business Structures

- **Sole proprietorship**
 - Only appropriate at very beginning before significant progress
 - You are the business
 - All income passed through to personal income
 - No liability protection

Business Structures

- **Limited Liability Company (LLC)**

- Best business structure for most startups when first starting
- *Member-managed* versus *Manager-managed LLC's*
- Limits your liability by separating your business from you
- Profits and losses are passed through to your personal income

Business Structures

- **C-Corporation**

- Best structure when you are ready to bring on investors
- No pass-through income. C-Corp profit taxed.
- Not a good choice until profitable
- More flexibility with advanced tax techniques

Final Recommendation: Start with an LLC and transition to a C-Corporation once profitable or bringing on equity investors.



Business models

- Business model is more critical than business structure
- One-and-done versus recurring
- Find a way to add recurring revenue to your model
- Recurring income = much higher Price/Earnings (P/E) ratio

Business models

- Recurring income reduces chance of competitor stealing your market share
- Costs about 7-10x as much to acquire new customer as it does to serve recurring customer
- Recurring income helps with cash flow which is biggest problem for successful hardware companies
- Recurring income = stability = predictable growth

Business models

■ Hardware-as-a-Service

- Most common recurring model
- Typically includes recurring software license or service
- Profit comes more from recurring than gross unit profit
- Profit margin and manufacturing cost become less critical
- Recurring service/software either required or optional

Business models

- **Consumables**

- Razor blade model – Make your profit on the disposable blades not the razor
- More complex to scale due to the efficient distribution requirements

Marketing

- Marketing = Reach + Trust-building
- Inbound / Outbound marketing
- Organic versus Paid marketing
- Limit interruption-based marketing

Marketing

- Build an audience who trusts you
- 3 strategies to build audience: build, borrow, or buy
- Email much more valuable than social media followers
- Focus most of your effort on building a qualified email list

Marketing

- Website + no content = no traffic!
- Teach and educate, don't sale!
- Text or infographics = Highest reach
- Audio or video = Highest trust
- High reach + high trust = Sales!
- Research for new products

Customer Development

- The forgotten piece: the Customer
- Work with customers early to understand their needs
- Be careful of assumptions, they are usually wrong

Customer Development

- Public development with customer involvement
- Bring customers in early, sell to them later
- Create more engaged customers

Product Development

- Typically first major barrier to overcome
- Multiple engineering disciplines required: electronics, mechanical, software, industrial design
- Must proceed with final production requirements in mind

Product Development

- In-house, freelancers, firms, or manufacturer partnerships
- Ongoing due to need to continually develop newer products
- Minimum Viable Product(MVP) required.
- Simplify, simplify, simplify!

Manufacturing

- Manufacturing setup is major financial obstacle
- Mold costs are very expensive – Amortize if possible
- Amortize molds when possible

Manufacturing

- Best to ramp up slowly
- Pick your manufacturer carefully
- Strive for a manufacturing partner
- Closely monitor quality

Operations / Logistics

- Getting your product from manufacturer to customer
- Manufacturer -> Trucking -> Sea port -> Sea cargo -> Sea port -> Trucking -> Warehouse -> Customer
- Local warehousing or direct to larger customers
- Work with a logistics company specializing in international cargo

Finances

- One-time costs / per product (fixed costs)
 - Financing initial prototypes
 - Financing full product development
 - Financing scaling (certifications and manufacturing setup)

Finances

- Ongoing costs (variable costs)
 - Financing inventory
 - Ongoing cash flow
 - Find a manufacturing partner with good payment terms
 - Recurring revenue greatly helps cash flow

Sales

- Fuel for your company, nothing else matters without sales
- Sales tends to solve lots of problems, although not all
- Sales cycle should start with early customer development

Sales

- Ideally begin selling before you begin development/manufacturing
- Understand your distribution options and associated profit margins
- Start with channels with highest profit margin
- Bring on independent sales reps on commission basis

Customer Support

- Your customer relationship never ends at the sale
- Especially for recurring models
- Easier to keep an existing member happy than getting a new one
- Expect higher levels of customer support required initially

Customer Support

- Monitor customer happiness closely
- Be aware of potential quality issues
- Minimize by improving messaging and instructions