HARDWARE STARTUP WINS & FAILS
THE REALITIES OF SELLING HARDWARE

Dana Madlem | VP, Services | Rush Order | dmadlem@rushorder.com
Topics

- Background / my perspective
- Separating fact from fiction: What does the empirical data say?
  - What do successful hardware startups really look like behind the scenes?
  - How hard is it to get started?
  - Sales channel management
  - Returns
  - Logistics design
- Q&A
Turnkey Ecommerce, Fulfillment, Accounting, and Customer Support from Silicon Valley’s Most Experienced Firm
What is Rush Order?
(aka “my perspective”)

1. Make the product
2. Product storage
3. Ship to customer
4. End user customer support
5. Get you paid for the order
6. Handle all returns

Global warehousing
- California
- New York
- Canada
- Netherlands
- Hong Kong
- Japan

Order Fulfillment to consumers and retailers.

Contact Center
- Phone
- Email
- Live chat
- Social media

Accounts Receivable
- Credit Card Fraud Mgmt
- Sales tax compliance
- Reverse Logistics
- Repair & refurbish
THE FLEXIBLE BACK OFFICE OF THE WORLD’S BEST IDEAS...
...TIME AND TIME AGAIN.
My Window into the Hardware Startup Landscape

No sales pitches. We see the unvarnished data and help clients manage real-life operations. And we put out their fires.

“A good friend will help you move, but a true friend will help you move a body.”
— Steven J. Daniels, Weeds in The Garden of Love
Profile of Current Clients

- ~100 Clients total
- 75+ are hardware startups actively shipping in 2017
  - 85% are still operating as independent businesses
  - 8% died last year
  - 8% recently had major liquidity event or exit this year
  - Of the remainder operating independently, there is a fairly clear trajectory (up or down)
- All 75+ startups were founded between 1999 – early 2016
  - 0 founded after early 2016. Why?
  - Average Founded in 2012.
Profile of Startup Clients

- Mostly consumer products. A few B2B.
- Funding ranges from $500k in seed round to $725M raised in private markets (unicorns).
- Total funding raised: $1.8B
- Average private funding, including unicorns = ~$30M
- Average private funding, excluding unicorns = ~$14M
- 78% raised more than $1M to date.
- 35% raised more than $10M to date.
Topics

- Background / my perspective
  - Separating fact from fiction: What does the empirical data say?
    - What do successful hardware startups really look like behind the scenes?
    - How hard is it to get started?
    - Sales channel management
    - Returns
    - Distribution design

- Q&A
EMPIRICAL EXAMPLE
ORDERS SHIPPED BY MONTH

PHONE SUPPORT REACHES 75,000 MINUTES PER MONTH

20,000 UNITS IN WAREHOUSE FLASRED & REPACKAGED

MAJOR PRESS COVERAGE

ACQUIRED FOR $590 MILLION
How Hard is it to Get Started?

- 0% shipped in the same year they were founded
- Average timespan from founding date to actual customer ship date = 31 months
- Over 70% of clients’ products required “significant re-work” after leaving the factory.
  1. Firmware flashing
  2. Batteries – all sorts of issues
  3. Packaging (e.g. product mounts and trays, adhesives, scuffing, barcodes)
  4. Other component failure (e.g. wheels, motors, plastics, wrist straps, etc.)
  5. Sensors

“Everyone has a plan until they get punched in the face.”
-- Mike Tyson
Sales Channel Management is Hard

After the first crowdfunding / pre-order campaign, 0% consistently reached those direct-to-consumer sales volumes ever again.

Be prepared for the contribution of B2C volume to switch from 90% to 10% of your gross sales.
The New Retail Reality

You must unlearn what you have learned

- Direct sales are fun and profitable, but scale happens with channel coverage AND pull demand efforts.

- B2C is no longer a long term strategy for most.

- Start strategically.
  - Your product on the shelf at Best Buy ≠ Success.
  - Sell-through at any store = Success

- Major trend: “.com” drop-shipping
How do the Best do Sales Channel Management?

- The old school stuff… Large marketing and PR budgets

- Successful channel strategy and execution – it’s not accidental. VP of Sales (or similar) role is critical.

- Every client is selling product on Amazon (80% are selling product to Amazon). Seller Fulfilled Prime is possibly next big trend.

- **Every** successful consumer product we manage is going to other major retailers too (online and brick & mortar)

- Direct to consumer channel should be viewed as one tool in your Swiss Army knife
What Variables are Common Across the Success Stories?

- Sales & marketing. It does take money to make money.
(Mostly) Recoverable Mistakes We See

- Manage all your crowdfunding backer data on spreadsheets.
- Promise a specific delivery date. Embrace “seasons”, not “months”.
  - “Crowdfunding scammer speaks out at SXSW”
- Be surprised by credit card fraud
- Insurance? What insurance? – Theft, inventory lost at sea, hungover forklift driver, smelly product, etc.
- Retailer chargebacks.
Major Retail Operations are not Trivial
Watch your Scorecards carefully

Robotics Product

<table>
<thead>
<tr>
<th>Issue Type</th>
<th>Enforced</th>
<th>Waived</th>
<th>Total (7d)</th>
<th>Total (30d)</th>
<th>Performance vs. Other vendors</th>
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<tr>
<td>ASN related</td>
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<td>0 USD</td>
<td>6.88 USD</td>
<td>6.88 USD</td>
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<tr>
<td>Prep related</td>
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<tr>
<td>Receive related</td>
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<td>0 USD</td>
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<td>0 USD</td>
<td>0 USD</td>
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<td>PO related</td>
<td>0 USD</td>
<td>0 USD</td>
<td>0 USD</td>
<td>1.8 USD</td>
<td>Excellent</td>
</tr>
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</table>

IoT / Wearable Device

Smartphone Accessory
## June 2015 Direct Ship Vendor Scorecard

### Vendor Scorecard Metrics

<table>
<thead>
<tr>
<th>Current Metrics</th>
<th>Out of 20</th>
<th>June</th>
<th>Spring</th>
<th>YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship On Time</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Fill Rate</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Fulfillment Time</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
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<tr>
<td>Problmatic Track</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

### Current Scorecard Total Points

| Total Points for Metrics | 60 |

### Future Metrics

| % of Orders w/out Case Created | 10 |
| % Delivered on Time            | 20 |

### June 2015 Direct Ship Scorecard Grade

A

### Fiscal 2015 YTD Direct Ship Scorecard Grade

A

## 2015 Monthly Recap

<table>
<thead>
<tr>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<td>79</td>
<td>79</td>
<td>70</td>
<td>68</td>
<td>63</td>
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<tr>
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<td>$21,301</td>
<td>$86,188</td>
<td>$22,483</td>
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<td>315</td>
<td>310</td>
<td>263</td>
<td>247</td>
<td>90</td>
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<td>7%</td>
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<td>17%</td>
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### Grade Metrics

<table>
<thead>
<tr>
<th>Ship on Time %</th>
<th>June 2015</th>
<th>Spring 2015</th>
<th>2015 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Confirmed Orders</td>
<td>48</td>
<td>64</td>
<td>-25%</td>
</tr>
<tr>
<td># of Delinquent Orders</td>
<td>1</td>
<td>0</td>
<td>-100%</td>
</tr>
<tr>
<td>Total Ship on Time %</td>
<td>100.00%</td>
<td>100.00%</td>
<td>99.51%</td>
</tr>
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</table>

### Fill Rate %

<table>
<thead>
<tr>
<th>Fill Rate %</th>
<th>June 2015</th>
<th>Spring 2015</th>
<th>2015 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Units Shipped</td>
<td>52</td>
<td>68</td>
<td>-22%</td>
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<tr>
<td># of Units Delivered</td>
<td>52</td>
<td>68</td>
<td>0%</td>
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<tr>
<td>Total Fill Rate %</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
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### Avg Fulfillment Time

<table>
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<tr>
<th>Avg Fulfillment Time</th>
<th>June 2015</th>
<th>Spring 2015</th>
<th>2015 YTD</th>
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</thead>
<tbody>
<tr>
<td>Avg Business Hour Fulfillment Time</td>
<td>27</td>
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<td>1</td>
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<tr>
<td>Avg Business Hour Fulfillment Time</td>
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<td>1</td>
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### Problematic Tracking Rls

<table>
<thead>
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<th>Problematic Tracking Rls</th>
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<th>Spring 2015</th>
<th>2015 YTD</th>
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<tbody>
<tr>
<td># of Damaged Cases</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td># of Mix-Ship Cases</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td># of Missing Cases</td>
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<td>0</td>
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<tr>
<td>Total Case</td>
<td>0</td>
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</table>

### Future Graded Metrics

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<tr>
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<tbody>
<tr>
<td>% Delivered on Time</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
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### Informational Metrics

<table>
<thead>
<tr>
<th>Informational Metrics</th>
<th>June 2015</th>
<th>Spring 2015</th>
<th>2015 YTD</th>
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</thead>
<tbody>
<tr>
<td>Shipping Metrics</td>
<td>June 2015</td>
<td>Spring 2015</td>
<td>2015 YTD</td>
</tr>
<tr>
<td>Total Roy CI</td>
<td>54</td>
<td>54</td>
<td>54</td>
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<tr>
<td>Units per Order UCPI</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Units per Carton UCPI</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
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<tr>
<td>Packages per Order UCPI</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
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</table>

### Chargebacks

<table>
<thead>
<tr>
<th>Chargebacks</th>
<th>June 2015</th>
<th>Spring 2015</th>
<th>2015 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delinquent Orders</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fill Rate</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mix Shipping</td>
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</tr>
<tr>
<td>Total Chargebacks</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
Dear Valued Supplier,

Please review the most recent Walmart.com Vendor On Time Fulfillment (OTF) performance:

<table>
<thead>
<tr>
<th>Vendor Number</th>
<th>Vendor Name</th>
<th>Week</th>
<th>OQQ</th>
<th>Walmart Short Units</th>
<th>Vendor Short Units</th>
<th>Units Received On Time</th>
<th>Vendor On Time Fulfillment</th>
<th>OTF Rank</th>
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<tbody>
<tr>
<td>23</td>
<td></td>
<td>81</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>81</td>
<td>100%</td>
<td>5</td>
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<tr>
<td>24</td>
<td></td>
<td>54</td>
<td>0</td>
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<td>100%</td>
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<td></td>
<td>60</td>
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<td>0</td>
<td>0</td>
<td>60</td>
<td>100%</td>
<td>5</td>
</tr>
<tr>
<td>YTD</td>
<td></td>
<td>9278</td>
<td>1200</td>
<td>233</td>
<td></td>
<td>7684</td>
<td>96%</td>
<td>5</td>
</tr>
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</table>
How to Avoid Certain Death

- Sell in is not sell-through
  - Get your marketing machine ready
  - Manage credit risk... “Hurray! We finally made it! We just signed on GoodGuys, Circuit City, andSharper Image!”
  - Inventory management and sales forecasting are hard...
Hurray! We signed a major retailer!

6 months later… “Hey, what are those pallets being offloaded on the dock?”
Return Rates are Dictated by Nature and Nurture

8%

10% - 25%

3% - 8%

- Product quality (duh)
- Connectivity (bluetooth vs. wifi vs...)
- Moving parts
- Other product complexity (e.g. installation)
- Brick & mortar retail sales
- US is highest. Asia is lowest.

- Product quality (duh)
- Certain categories like toys
- Direct online sales and etailer dropships
- No connectivity
- Low complexity in product
- US is highest. Asia is lowest.
More on Returns

Invest heavily in beta testing. “Tell us what you think” doesn’t work.

Consider design for test, and design for repair in your product NOW. You will re-work units in your warehouse.

The ability to create refurbished units can help soften the landing. How?

- Use refurbs for warranty replacements
- Sell refurbs / open box units through creative sales channels (this is what you see on Woot, Groupon, Overtsock, etc.)
Developing a Plan

MISTAKES
It Could Be that the Purpose of Your Life Is Only to Serve as a Warning to Others.
Developing a Plan

Physical Product Movement

Product Returns (3% - 15%)
- Return for refund
- Return and replace
- Advance replace

Product Returns (5% - 25%)
- Return for refund
- Stock rotations
- Return and replace
- Advance replace

Order Flow

EDI Software
- B2C Order (web, crowdfunding, etc.)
- Retailer Order

EDT Software
- Dispute Chargebacks, reconcile returns, reconcile credits

Refunds, credits, customer care discounts, etc.

Contact Center
- Ecommerce System
  - Payment Gateway
  - Ecommerce System

Freight Forwarder
- 3PL
  - Parcel Carrier
  - End Customer

LTL Carrier
- Retailer
  - End Customer
For Every Box in the Plan, Answer:

1. Who is going to perform this task?

2. How is that employee, contractor, partner, etc. going to perform this?

3. Where are they going to perform this task from?

4. How does each step integrate with the next? How does each integration impact customer experience.

5. How much will it cost? Service provider fees, duties, taxes.
"You can lose a lot of money fast in a hardware business if you do it wrong, and most people do it wrong."

"But building it is not the hardest part," he continued.

"It's making it, distributing it, managing inventory, managing distribution through the channel, understanding the market and supporting the product...This is really difficult stuff."

— Randy Komisar
Partner @ Kleiner Perkins Caufield & Byers
*The Wall Street Journal* – March 2014

“The only way to win is to learn faster than anyone else.”

— Eric Ries
*The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*
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