UCSF Lean LaunchPad Lessons Learned - Responses as of 1/25/14

Abhas Gupta – Digital Health, Allan May/George Taylor – Devices, Todd Morrill - Diagnostics

What else do we need to ask teams in their application to the class?

- *Abhas*: I wasn't very involved in the selection process so take this with a grain of salt, but if we could do it again, I would put more emphasis on understanding how far along the team is in their execution; there seems to be a balance between the early teams showing enough product/vision to validate their motivation but for the later teams, not so much so that they are tied to their idea or too far ahead than the rest of the class

- *Allan*: There needs to be a focus on a compelling clinical need; that is the core of any medical device or dx company. Then as Abhas says, they need to have done sufficient investigation, research, or discovery to provide some initial validation that such a need really exists, **and** that all existing solutions are inadequate; really still an unsolved need. (many of our teams had insufficient or poor understanding of current solutions.)

- *Todd*: How long have you been together as a team? What do you anticipate your relative positions within the startup which will result from this class? If you are successful and there appears to be an opportunity, are you prepared to quit your day job? Describe problems you have faced within the team, and how you resolved them. [I wouldn't exclude teams on the basis of their answer to this, but it would be interesting to see how they react.]

How would you screen teams differently?

- *Abhas*: For a class - lean towards earlier teams; quality of teams is less important (because learning opportunity is more important); if there are early ways of testing commitment, that would be very helpful
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- *Abhas*: For an incubator - lean towards later startups; team quality, composition, background is much more important

- *Allan*: Perhaps focus more on what clinical investigation they had done – interviews or research with physicians and patients – regarding the 2 points above. Ideally, they will have spoken to multiple physicians from multiple institutions, esp. Non academic hospitals and clinics.

- *Todd*: I believe that the selection criteria should be a function of the goals of the class. Learning happens for all teams. Getting close(r) to market or investment is much more likely with later stage teams. The tradeoff is whether they can pivot: unlike either mobile apps or basic engineering 'stuff', life sci teams are usually trapped in a particular technology and unable or unwilling to pivot. If the purpose of

the class (or the bragging rights) are 'newcos launched', we should screen for not-too-early, and 'realistic' teams.

- *Todd*: The unfortunate truth is that (I believe) a sophisticated observer can eliminate 85% of the incoming teams with 90% accuracy if the goal is to have investable/launchable teams. Personally, I see the course as educational, so unlikely ideas are welcome. Sure, the company will never launch (and often the idea is dumb and the entrepreneurs naive), but that's ok if the team members learn customer discovery aka opportunity evaluation.

- *Todd*: So, the only addition criteria I'd add are 'intention to finish' (will they stick with it) and 'real idea' (or is the idea/technology an excuse to take the course and the team a poorly agglomerated motley crew?) These are certainly correlated… This issue speaks to my overall grumble about the conflation of *learning* by the students and the *investability* of the team: different ideas, different purposes, different teams! Finally, I would hesitate, if possible, to drag in the weak/poor/previously defeated just to get the team numbers up.

Anything else needed on their LaunchPad Central Profile?

*Steve***:** Teams need to set up their profile before they start the class

Todd: Full contact info, including phone. What role they anticipate in the startup.

Any Thoughts about Competition?

- *Steve***;** Need to make the teams update their competitive slide and thinking weekly

- *Abhas*: I'm less supportive of doing this, actually. Time is already limited so I'm already hesitant to add *any* more slides; perhaps we have them revisit the competitive slide at 3 points--beginning of class, along with channels or customer relationships, and at the end of the class

- *Allan*: I think the concept of competition can be thought of differently in device and dx. Truly understanding the existing possible solutions (ie, competitors) is the core of demonstrating you have a truly unsolved, current, clinical need. All vcs and strategics will focus in considerable detail on why one thinks existing current solutions are indeed inadequate, and demand proof of that hypothesis for every possible solution. For this reason, i would flip and **start with customer** rather than value proposition.

- *Todd*: One of the everything-needs-to-be-first issues. I prefer to let them figure it out themselves for a while. Get the ecosystem slide built and correct(ish), then work on competition. One always hopes that the competition discovery will occur during customer interviews; and sometimes it does. I have a longer list of 'every week'

slides (see below) but to be honest, I 'require' them but don't always have time to get to them.

Customer Discovery Workshop: Thoughts?

- *Steve*: We had them watch the customer discovery videos. But the workshop needs more rigor.

- *Abhas:* I had 15 minutes worth of content for 3 hours -- I'm not sure if we're talking about the same thing, but my teams specifically remarked that they would want more cohort time and less all-class time; in particular, they found the "lessons learned" at the end to be less helpful for them (and this may be understandable due to the cross-healthcare focus, though probably won't be the case for future cohort-specific classes)

- *Allan*: I agree with Abhas' observations. I do think one can group device and dx. The other two are just two separate to learn much in a cross disciplinary fashion.

- *Todd*: (a) Customer discovery is experiential. I'd have them watch the videos, then do a couple of (pre-designed) role plays. This works quite well in e.g. negotiation [each side gets a cheatsheet telling them what they know and some idea of what constitutes 'winning'] Lots of work to design the role plays, and they only address 40% of the problem anyway. Still… So my philosophy is 'make them suffer', and don't worry about training them on customer discovery -- they will figure it out. (b) Commentary on Abhas and Allan's commentary - Maybe turn the final 'lessons learned' into discussion of customer interview technique, stories (short!), problems, etc. rather than compare/contrast cohorts? Or… each week, each cohort gathers 15 mins of 'learning' and presents it the following week in the general session, thus no end-of-the-day full session? BTW, I agree with Allan that Dv and Dx are similar in many ways, but I'd add Rx as well. Plus anything in the DH cohort which is regulated.

What else should we be teaching teams to know about getting out of the building?

- *Abhas*: I think we do a great job already, but for instance, if we extended the product/market fit sections to 3-4 weeks instead (as described below), we could insert a lecture in here on how to do effective customer interviews (being critical, summarizing, challenging viewpoints, etc.)

- *Allan:* Perhaps the first two weeks should be on customer and customer needs. No one got this right, and in real life, most startups struggle with really understanding the core of the clinical problem. They are all gung ho on technology and some solution they have for their perceived problem. Most investors spend most of their

time dissecting the claimed need to truly understand whether and the extent to which one exists.

- *Todd*: Keep the pressure on. Tell them not to shoot too high (in rank of interviewee). Push hard for more early interviews (may not be possible) -- those build muscle.

More role playing?

Abhas: I'm ambivalent about this
(see George Taylor suggestion below)
(see Todd's comment above)

Imagine your cohort is the only one being taught in the class: 1) What order should the canvas be taught? 2) Where on the canvas does IP, Regulatory, CRO's, and Reimbursement go in?

- *Abhas*: The order mostly works well for digital health; I would extend the product/market fit section to be 3 or 4 weeks instead of 2 and insert the lecture about more effective interviews. I would still make the teams present their product/market fit along the way to get critical feedback. Also, I would go over Key Activities immediately after the right side of the canvas. A critical part of the Key Activities must be prioritizing which activities are important now vs. later; this sets up a good foundation for proceeding with the other elements of the left side of the canvas (partners, resources, +/- costs). My teams had a lot of trouble with the current structure and were proposing partnerships/resources that are much more relevant 3-5 years down the road, so the activities prioritization is a helpful way for them to get setup before proceeding.

- *Allan:* I agree with these observations. As noted above, i would spend 2 weeks on identifying why current solutions for the hypothetical need are so inadequate that an entire company can be built around a new solution to that need. Validating the clinical need if you will. Then one must demonstrate that one really has a solution that addresses all or most of the inadequacies of existing solutions.
    - Then one should turn immediately to activities: notably intellectual property. No ip; no exit. If one's proposed solution is not patentable, one should search for new solutions to the validated compelling need tha are protectable. If none are protectable, then stop right there.
    - Then one can turn to customer development and size of market. Part of this will inevitably involve understanding pricing constraints, (one of the boundaries of this discovery will be price/reimbursement. A huge portion of proposed solutions are simply too expensive for the problem, whether they work or not) and clinical/regulatory strategy.
    - The items above all work together; iterating one often forces modifications to the other.
    - Then go to activities, esp. FDA pathway, clinical pathway, and reimbursement. The key insight here is not that one needs to execute

these items: one needs to understand these items and how they will impact the path to commercialization for the device.

- *Todd*: I'm fine with the current order; ideally there would be another week (at least) for the left side of the BMC. There is no question (at least in my mind!) that many teams spend the entire semester flopping about looking for product-market fit, but adjusting the canvas order won't help. I *would not* go to IP early, because it is not addressable within the structure of the class. I absolutely agree with Allan that it is a necessary gateway to most exits, but it also often requires real experts charging real money.

- *Todd:* additions to the BMC and required slides:
    - 5. *Revenue Streams*: add Reimbursement. BUT, make them begin to present a slide with ideas on reimbursement after the Channels lecture. The quality of the info (accuracy, detail, interview support) should improve every week. I put this here because Channels just aren't all that interesting in Dx (nor, I would argue, in most of healthcare).
    - 6. *Key Resources*: add IP. Emphasize criticality, allow them to consider it later (outside the course). Just my bias.
    - 7. *Key Partners*: add Regulation. Slide MUST be supported with customer interview data. The FDA *will* take calls, and as long as you stay away from discussing real data, is happy to provide advice.
    - 8. *Key Activities*: add Clinical Trials. BUT make them start presenting on this after the Customer relationships lecture. Clinical Trials are the validation statements for the product, which is different from the regulators and regulatory issues. In fact, some of your customer relationship will be driven by the outcomes of the trials. Required slide starting after the Cust Relationship lecture, again with improving quality as the semester proceeds.

Your cohort is being taught with the 3 others, as we did this semester. **To keep the class in sync, what order should the canvas be taught?**

- *Abhas*: Same as above; more time for product/market fit and present activities earlier

- *Allan*: The above does apply to all but hcit.

- *Todd*: Leave it as above, but allow at least one more week, ideally two, for the left hand side of the canvas.

Canvas – Domain Specific Components

- *Steve*: Key idea – Integrate IP, regulatory pathway and reimbursement, CRO's, KOL's, SAB's, etc. into the existing canvas

- *Allan*: agree with this. Timing and sequencing very similar for all but hcit.

- *Abhas*: The current canvas works great for digital health

- *Todd*: I don't get what the CRO piece means, other than they will be subcontractors to you in Rx and maybe Dv. I would have thought that they would be discovered via customer interviews. KOLs: yes. Key Resource. SAB: um. I am sceptical that formal SABs actually add much value to most companies. Yes, get lots of people to help out, but I worry that SABs end up being sclerotic and counter-helpful. Reimbursement probably only matters to Dx. Although outside the US it is important.

- *Todd*: One addition: for Dx it is *critical* to consider OUS markets, esp. Europe. Historically, Rx also paid close attention to Europe. Dv I don't know… So I would introduce an international component in most left-canvas boxes.

Right side of the canvas:

- *Steve*: *Customer segment*: Should we be describing "the customer" for all cohorts as someone with a compelling clinical need?

- *Abhas:* Not for digital health. Customers can be very diverse and the ambiguity in the definition is a net plus--it really forces the teams to think about the value proposition to everyone and prioritize where their fit is strongest. This is part of the "art" vs. mechanics of the BMC -- I would like to preserve it as much as possible

- *Allan*: Yes; the core of everything we do is the patient and customer should be patient centric. Making the patient experience and/or clinical outcome better is the only reason a medtech company should exist. Having said that, virtually all med markets are multi-sided markets with other "customers", in the sense of key constituencies, with multiple value propositions, etc.

- *Todd*: No. What is the difference between 'must have' and 'compelling clinical need'? And do insurers really care? My suggestion is that they don't (depending on cost to them, risk of denying those claims). ACOs are interested in long-term costs as well, so 'compelling' is a function of current cost, future cost, risk, patient profile, etc. For-profit medical groups will tend to 'sell' what they can. Etc. In my opinion, there are lots of different customers in the ecosystem. Clinical need is subjective, subject to change, tends toward 'trendiness' and hard to evaluate without clinical data. And in Dx, there is a horrifically complex guesstimate involving how the test fits into existing testing platforms; economics will drive as much as clinical need (!).

- *Todd:* At the risk of annoying everyone, can I point out that there are many medical products for which there is "No clinical need" whatsoever? How large is the botox market? The cosmetic surgery market overall? The 23rd drug for lowering blood lipids? Another sleeping pill? Another ergonomic scalpel? Don't get me wrong: I

think find many of these products unnecessary and some even immoral, but I believe that *customer* need drives this market as much as clinical need.

- *Steve:* Ensure that students and teaching team understands that what goes into the customer segment box *changes over time*.
    - While a CRO or Payer may *ultimately* be a resource and/or a partner or a revenue source, until you get them signed up they're first a customer.
    - And (as George points out below) in devices your potential exit partners are also "a customer.

- *Abhas:* Agree with both points above

- *Allan:* "Yes; startup medtech companies the r&d for larger medtech companies with established manufacturing and distribution infrastructure. Many medtech companies are acquired before they market and sell to conventional customers.

- *Todd*: Yep, I agree, with a slight tuning: there is a difference between who you interview (aka customers) and who gets matched with VPs (aka customers), and I believe that this is the source of much of the confusion. "Interviewees" is a large group and includes everyone in the ecosystem-plus. (True) customers are the core group for whom you need a solid VP to be successful. Often this includes several groups within the ecosystem but usually not all. It might help the students to distinguish between these two concepts.

Left side of the canvas:

Steve: in order we should teach 1) activities, 2) resources, 3) partners, 4) costs.

- *Steve: Activities* are the things the key things you need to do to make the rest of the business model (value prop, channel, revenue) work. Activities cover clinical trials, FDA approvals, software development, drug or device design, etc. Activities are not the product/service described in the value prop, they are the unique expertise that the company needs to *deliver the value proposition*.

- *Allan:* Is it helpful here to think of these left side items not as activities per se? For example, what is important is to know whether your solution is a 510k or pma. If a pma, are there any solutions you can come up with that are 510ks that you can pursue first? This understanding will inform your financing and company build strategy as and when you execute.

- *Steve: Resources*. Once you establish what activities you need to do, the next question is, "how do these activities get accomplished?" I.e. what resources do I need to make the activities actually happen. The answer to that question is what goes in the resources box (and if necessary, the partners box.)

    - *Steve:* Resources are the CRO's, CPT consultants, IP, Financial or Human resources (regardless of whether they're consultants or employees.)

- *Allan:* Again, i think of resources in two ways: those needed to conceptualize, understand and frame the problem and the solution; and those needed to implement that plan. For example, startups need sabs and kol clinical advisors long before they need cros and reimbursement consultants.

- *Steve: Partners* perform some key activity or provide some key resource the company cannot. CRO's, IP lawyers, ??. They can take the form of buyer-supplier, strategic alliance, joint venture, etc.

- *Abhas*: Wish I read this first; and yes, agree completely; just want to add emphasis on going through the prioritization/staging exercise with the teams during the Key Activities

- *Allan*: I struggled here because so many functions can fit the partner category. Typically i would think of them as human resources, financial resources, manufacturing resources., and ultimately distribution resources.

- *Todd*: I don't really care what the order is -- anything can work. I think that I could build an argument for each order, and definitions of what goes in the boxes to fit! What I *would* like is more time to distinguish and teach them, *and* (most importantly) time for the teams to integrate the info and conduct interviews. Also, see my comments about extra slides etc. above.

Weekly Presentations: Length OK? Content OK or is something missing?

- *Allan:* 12 minutes seemed to be the minimum time needed. That tended to expand to 15+ when one tried to use class presentations to teach more broadly to the other cohort teams.

- *Abhas:* I noticed a real inflection in the quality of my team's presentations when i specified exactly what i wanted to see in their next week's presentations; making sample quality presentations available to all the teams for their review immediately after the lecture should help raise the quality of all presentations

- *Allan:* I agree with abhas. There is a lot of floundering in the early weeks. We should specify a clear set of deliverables

- *Abhas:* BMC - week after week, too many teams spent too much time on their first BMC slide; we need to encourage them to only use the BMC for setup (<15 seconds) and quickly jump into the details where they can actually get good feedback from the teaching team; the BMC should be viewed as an organizing

framework, but the value is in the details and my bias is the sooner the teams get there the more they can get out of it

- *Todd*: My suggestion for following Slide 1: Who did you talk to / What did you learn / What are going to do next (w/w/w). So the order becomes: Title slide, www1, www2, www3 (not individual interviews, but rather similar/grouped interviews for that week)... , new BMC with expanded section (details of learnings), new BMC overall (to see ripples through the canvas, with changes noted), ecosystem, Compusories (reimbursement, regulatory, etc.), Goals for This Week.

- *Todd*: I like e.g. the Pain/Gain slide, but students are not very careful about following the syllabus formats.

Mentors: Were they good? Bad? How should we select mentors? How should we train them?

- *Allan*: I think the mentors performed typically, that is the way mentors usually perform in silicon valley, rather than aided in teaching the bmc or llp concepts, which may be fine. Much of the general background stuff was covered there, as well as some of the nuance.

- *Abhas:* The best mentors were the ones that felt they had lots to gain from the class; in digital health, these were either a) junior or seasoned folks looking to make their name in digital health, or b) mentors who felt personally inspired by the teams they were helping. short of these two characteristics, the mentor involvement was fairly half-hearted

- *Allan:* My sense was more meetings with the teaching staff are needed. Medtech is just that much harder (or more subtle) than other sectors.

- *Todd*: I would much prefer that the teams be responsible for finding their own mentors. I'm happy to add a few to the pot, but I don't want to hunt down people each time, try to encourage their hard work, push the teams to talk to them, etc. Lots of overhead, to be honest. Training: give them an hour at the start of the semester (pep talk, role discussion, etc.), one hour after 2-3 weeks (update, venting), one hour per week conf call with instructor or someone.

Advanced Lectures: What would the cohort instructors add to their lectures?

- *Steve:* Deeper examples?

- *Abhas:* At the end of the day, i'm comfortable with the lectures; of course, i went back and made many changes already. But more than anything, having more time to walk the teams through the lectures and relate examples to their companies would

be very useful; in one class where we had extra time, i asked the teams to go through their own companies and apply the lecture material: for example, how would their company would address the BMC square? (i.e., what revenue strategy do you think is best for you? what pricing tactic makes sense with that?). Recognizing that the teams will adapt after doing customer interviews, this approach was nonetheless incredibly effective in cementing the teams' understanding of the concepts from the advanced lecture.

- *Allan:* I think the most valuable thing we could do is to sit down between the sector instructors and try to agreeo n a core curriculum. At least for medical device, dx and pharma; not as sure for hcit (although those products involving devices regulated by the fda will fit).

- *Allan*: I think in generalizing between the sectors, we could find better, more efficient ways to connect the thoughts being expressed here to the bmc construct.

- *Todd*: I'd like 30+ minutes per week. Sometimes I have extra content, other times I use it to get a download from teams re: issues, needs etc. Next time, I would limit team presentation time to squeeze 30-40 mins for my own dulcet tones. The content is as noted above, PLUS I still haven't made a good ecosystem slide showing the system, the direction of flows and the content of flows.

UCSF Logistics

- *Steve*: I thought UCSF did a great job. Any issues?

- *Abhas:* Agreed--great job!

- *Allan:* Terrific attitude of their people. Big disparity between the various rooms but overall no negative issues.

- *Todd*: Yep, they done good.

Lessons Learned Pitches

- *Steve:* Pitches this time fell into between storytelling and product pitches. A few did what we asked for – tell the story of **using the business model canvas** – show initial canvas, canvas at a critical pivot, and the final canvas. Click through each of the weeks canvas'
- *Steve:* Fire the storytelling expert. Come up with a very specific, very directed presentation set.
    - *Steve:* Use the Heros Journey as the story arc.
- *Steve:* Have quality control for each and every presentation.

- *Steve:* Nothing gets presented unless the teaching team reviews <u>each and every</u> pitch.

Abhas: I would like to keep the storytelling expert actually :).
I thought a lot of his points were quite useful (make stories personable, describe your idea in one line, understand your audience, etc.). I would limit his time to about 20 minutes and follow that with a presentation from one of the instructors that recommends a strict outline.

Abhas: For each of my teams, I laid out an outline and had them build a presentation to that outline (I've included an example email below). I then went through 3-4 revisions over 2 weeks with each team before they were ready to present. For the marquee presenting teams (ResultCare, Making Friends, and Tidepool), we did several Google Hangouts where they presented to me over video conference. This worked out great and I was overall very happy with all three teams' presentations.

Abhas: Sample email:

"*Hey guys, overall, well done! I like how the story is coming together! My comments below reflect two main points: a) you'll have 6-8 minutes for the presentation and 2 mins for the demo, so you need to keep it high level/less busy/more crisp. What details you lose in keeping things at a high level you gain in impact, especially since you'll be one of the teams pitching to the whole class (and a lot of folks will be hearing it for the first time). And b) the syllabus storyline is a bit too complex for my taste, so I'm suggesting a cleaner alternative below. Let me know if you have any questions. Have a wonderful Thanksgiving! -Abhas*

Slide 2 – team slide; below each person, you should include the general scope of their responsibilities (I.e., Partnerships, Ops, Design/UX, etc); it's not necessary to add an additional slide for advisors/mentors unless you think it really helps build your case

Slide 3a..z - problem slides; set up the problem in understandable ways; employ narratives/use cases if that helps, share your personal story, etc. help me understand why this is a big pain point and who it affects

Slide 4a..z – the solution slides; how does your product solve this problem? what's your vision for the product/solution/use?

Slide 5 – market opportunity; now that you have a solution to your problem, what kind of opportunity is that associated with (immediately addressable market)? what are potential expansion markets (TAM, SAM)?

Slides 6+: I'm going to recommend taking a different approach than the syllabus because I think it's more crisp. Use the approach below and remember, you're telling a story so each slide should generally fit into the (we thought A, we learned B, and now we're doing C) paradigm:

A) We started the class thinking … show only a few highlights of the canvas (so people can read "how silly" your plan was); remember, you're presenting in front of the class to make the case for how much you've learned/progressed and for investors, how you are embodying the traits that are predictive for future success :)

B) Through the course of the class, we conducted X interviews with Y & Z people; thump your chest here about all the hard work you've done; talk about product development, vc meetings, advisors, everything!

And Through this process, we learned some very important things about our business… pick the top 2 things you've learned (3 if you have time), and share a slide on each.

C) 2-3 slides for each most important thing you've learned; remember to highlight the process you used to arrive at those learnings ("we thought this...", "we ran a robust experiment to test __ and learned xyz"; "now we're doing this...")

D) Now we're very excited about where we've landed (synthesize any concluding statements here) and we want to show you what we've built… (jump into demo)

E) Demo — only pick the 1 or 2 things about the demo; I would probably focus on the most salient value proposition to your customers

F) Going forward, we plan to… (use your timeline slide here). Set this up into stages, highlight the most important activities/proof points, include fundraising if relevant

G) Close — here, assuming you liked and learned a lot from the class, a sentence or two about how much the class has helped you would go a long way for helping the class get the recognition it deserves :)

Allan: Extremely well articulated. My only add would be to raise it up even one notch higher in terms of abstraction, and focus on what they learned that told them that their original proposals were not going to be successful and what critical 1 or 2 insights they gained from the program they believe make success more likely.

Todd: I don't want to be a party pooper, but… (1) The story telling expert can be very good. I thought that he was only ok at UCSF, but I've now seen him 3 times, plus I've seen 2-3 others. He's the best, but struggles with what the goal of the talk really is. (2) Put the story telling earlier in the course. (3) Make the video a journey video, not a pitch. Make the slides an expansion / continuation of the video. Please, don't make these pitches -- there are dozens of pitch classes already available. (Sorry, maybe I've judged too many business plan competitions!) (4) Nothing wrong with asking for specific slides but I fear that it will get dull after the 10th repetitive presentation...

George Taylor Comments

1. The starting points for evaluating any new business idea should still be the customer and the value proposition, where the "customer" is a compelling medical need and the value proposition is a particular solution(s).

However, the exit strategy is equally important. To emphasize that, we could say that the second "customer" is the set of medical device companies who are plausible targets for an exit. To evaluate those possibilities, one must understand the product lines and business strategies of all the current players in any particular market.

2. Then we diverge from the standard BMC because the next most important factors are not channels, customer relationships or revenue streams; but IP, regulatory pathway and reimbursement, where, of course, IP includes both freedom to operate and the ability to block competitors

Reimbursement does tie directly to the "Revenue Stream" block of the original BMC. But the check would be whether the plausible level of reimbursement can return a sufficient gross margin after subtracting cost of goods. (That is, the sanity check is not the revenue stream, but the gross margin.)

All of these factors are go/no-go checkpoints. If any of them check out poorly, the business idea is unlikely to succeed.

3. If all three of those factors check out, the next most important factors are "history of the space" and existing competition. No one would dream of starting a medical device company without thoroughly understanding everything that has been tried before with regard to the proposed compelling medical need, and explaining why none of those attempts completely solved the problem.

The same with competition.

4. Once all of those hurdles have been satisfied, then it's back to the cleanup which includes channels, customer relationships, key resources, key activities and key partnerships.

5. One last new idea. According to our teams, one of the most productive ways of getting out of the building and getting out of the echo chamber of your closest friends and colleagues is to read the peer-reviewed literature. The peer-reviewed represents other people's efforts to get out of the building, or to go learn some facts through original research. We think this should be emphasized as a legitimate way to learn facts. In particular, it's one way to address the Lake Wobegon problem, where everybody you talk with claims that they're above average.

Allan: This is an excellent summary of all the individual points i added above. I think this can be done without losing sight of key concepts like mvp, pains, gains, and many of the other insights that make the concept of customer discovery so valuable. In fact, i think the merger of biodesign's needs identification and concept development with

customer discovery provides a powerful foundation for novel approaches to life science startups.