

LUMO BODYTECH: A BUMPY JOURNEY

We either got really lucky or were really smart about picking the right team. Actually, I think it was some combination of the two.

— Monisha Perkash, cofounder and CEO of Lumo Bodytech¹

The weather was colder than usual when Monisha Perkash left for her morning run that day. Despite the chilly winds blowing on her face, her mind quickly refocused from the temperature to the tasks she had planned to accomplish a couple of hours later at Lumo Bodytech, the start-up she had cofounded in 2011.

Unsure about the future, Perkash started thinking about something she knew well: the particularly challenging story of the company she held helped create. From forming a team with people she had barely met to working on the products Lumo Bodytech ended up developing, it had been a bumpy ride. One filled with close calls regarding the financial situation of the company, as well as difficulties in preserving the quality and culture of the team.

Looking back, the CEO felt anxious but proud. She was finally warmed up for the run ahead.

AN UNUSUAL TEAM FORMATION STORY

Monisha Perkash first heard about Innovation Endeavors' incubator program² in late 2010, when she was working as VP of products at SimpleTuition, a Boston-based company focused on the problem of higher education affordability. She had sold her start-up to SimpleTuition the year before and had agreed to stay with the company as part of the deal.

¹ All quotes of individuals affiliated with Lumo Bodytech presented in this case, as well as any information not otherwise referenced herein, are based on interviews conducted on October 24, 2017, unless otherwise noted.

² Innovation Endeavors was an early-stage venture capital firm founded by Eric Schmidt in 2010.

Amadeus Orleans (MBA 2017) and George Foster, The Konosuke Matsushita Professor of Management, prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

After some time, however, the entrepreneurial itch became too strong to be silenced. Perkash recounted: “I wanted to do it again, I wanted to do it bigger and better; but I didn’t have an idea and I didn’t have a team, so I saw this [program] as a fantastic way to find both.”

The Program

The incubation initiative that had caught Perkash’s attention—organized by the venture capital firm started by legendary tech executive Eric Schmidt—had the goal of bringing together high-potential entrepreneurs to work on impactful business projects. Candidates were expected to apply to the program with an idea in mind, but they would be evaluated mainly based on their thinking process around such idea, especially on aspects like pressure-testing the thesis and soliciting user feedback.

Those selected would then be divided into interdisciplinary teams which would receive financing for six months. Team members would then use this period to explore potential ideas together, using a methodology inspired by ProjectSHED³—in which the search was based on a pre-determined set of criteria selected by the cofounders—adapted to contemplate elements of design thinking, especially principles of human-centered design. At the end of the incubation period, each team was expected to go out and launch one business.

Different stories meet during one weekend

In December 2010, 18 finalists were picked out of the several hundred applicants. They were invited to a final weekend of immersion at Innovation Endeavors’ office, the last phase of the selection process. Perkash recalled the dynamics:

It was a very intense weekend when we all met. It felt like extreme founder dating, where we had 14-hour days with group projects as well as individual presentations, and we even did some types of speed dating. So in the course of that intensive weekend, we really got a sense of who the other finalists were.

As the weekend evolved, Perkash noticed that she and three other finalists seemed to gravitate naturally towards each other during many of the activities. She was immediately reminded of some advice received a few hours earlier from Scott Brady, who had volunteered as one of the advisors of the incubation program: “He locked eyes with me and said, ‘There are some very impressive people in this room; find them and make them your teammates.’”

The first person in the impromptu group was Charles Wang, a former physician who, like Perkash, had graduated from the Stanford Graduate School of Business (GSB). Before business school, Wang had worked at Kaiser Permanente as a natural continuation to medical school at NYU and residency at Yale University. After some years of life as a doctor, he had become curious about what it took to start a business and left the practice of medicine to pursue an MBA, which he started in 2006. Since graduation, he had been working at a personalized medicine

³ ProjectSHED was an entrepreneurial venture carried out in 2000 by Scott Brady, Dave Leeds, Harpinder Madan, and Eric Botto, who had just graduated from the Stanford Graduate School of Business. For more details, please see <https://www.gsb.stanford.edu/faculty-research/case-studies/projectshed>.

start-up called Veracyte, in South San Francisco. After a few years working there on projects ranging from R&D to clinical development and marketing, he wanted to take another leap. He explained: “I had gotten to a point where I was ready to do the next thing and my risk was a bit diversified because my wife is a doctor, so that made it a little bit easier, I think.”

Andrew Chang, another person who had impressed Perkash, had graduated a few years earlier from an MS in atmosphere and energy at Stanford University. At the time of the selection process, he held a technical position at the U.S. Department of Energy, where he had been trying to apply lessons from Stanford’s d.School to his work, with little success. He had become aware of the Innovation Endeavors’ program through an old Stanford e-mail list and almost did not apply: “When I heard about the program, I immediately forwarded the e-mail to my now ex-girlfriend, saying ‘Hey, this is a fantastic program, you should do it.’” In response, his girlfriend had suggested that they both applied. Chang was the one invited to the final stage of the process.

Finally, there was Jake Goodman,⁴ an accomplished engineer with a strong background in algorithms and software development. Another graduate from Stanford University, he had been working with big data at Google and enjoyed his job. Nonetheless, he wanted to experiment with some entrepreneurship ideas. When Goodman heard from a friend about the incubation program offered by Eric Schmidt’s fund, he was certain that it could be a good next step for his career ambitions.

Self-selecting as a team

Perkash, Wang, Chang, and Goodman attributed the immediate bond created between them to two main factors. First, it was clear that each one of them contributed different skills and experiences to the group—from analytical and technical competencies, all the way to proven ability to execute in a start-up setting and be innovative. “We got to know each other and realized that we could really be a dream team, we had very complementary skillsets,” observed Perkash. Chang agreed:

There were just a lot of different experiences within the team. That was really, really neat and really cool. And we thought “Wow, we have got a lot of different skill sets here that we can play around with that open the door to what we can actually go out and try to solve and build.”

The second factor was their common desire to build a mission-driven company, one with the potential to create a large, positive impact in society. Beyond an interesting business or financial success, they genuinely wanted to solve an important problem and generate social good. Chang summarized:

It was some awesome stuff. We all wanted to solve something big. During that weekend, I had tried to find out why people wanted to start companies. And, for the most part, everyone was pretty darn honest. There were some people who said, “I just want to make money.” But when I talked to Charles and Monisha and Jake, it was more along the lines of: “We are in this world for only a very short

⁴ For confidentiality reasons, “Jake Goodman” is a fictitious name, as is some of the information presented about him in this case.

period of time; let's make it as meaningful as we can." And that was the message that resonated every time I connected with them.

Excited by their shared vision, the group decided to approach the program director to ask for an exception to the rules of the selection process. Instead of being selected individually and then being assigned to a team by the director, they wished to be considered as a complete team from the outset and, if selected, to work together as cofounders. The organizers were surprised but appreciated the bold move. A few days later, they invited Perkash and her three teammates—as a pre-formed team—to join the program.

Finding an Idea and (Potentially) Losing a Cofounder

The newly formed team started working together in January 2011. Inspired by the ProjectSHED story, and mentored by Scott Brady himself, they soon agreed on the top ten points that made a business idea worth pursuing. Despite their efforts to organize the work, however, the ideation process during the first three months felt like boiling the ocean. Given their divergent backgrounds, during that period the quartet explored the energy, health care, education, and consumer Internet industries—not exactly a narrow scope. Among the ideas they considered: a traffic and parking optimization app; and a universal platform with a FICO-like “trust score” that could be used across all peer-to-peer services, such as Airbnb.

Overwhelmed by the complex search process, Perkash decided to go on a weekend retreat promoted by the Palo Alto Medical Foundation—where her husband worked—for their physicians and their spouses. To Perkash, a key lesson from that retreat was the strong correlation between posture and back pain, which she found intriguing.

Back in the office on Monday, she told Chang about her weekend and suggested that he, who suffered from severe back pain, take the six-week series of posture class that she had heard about during the weekend. He agreed, and Wang decided to join him out of curiosity from his time as a physician. Within a few weeks of the course, Chang's back pain problem had been reduced significantly. It was an “eureka” moment for the team, as narrated by Perkash:

It was pretty incredible. That was when the lightbulb went on for us. There are millions of people in this country alone who have back pain. In fact, it is the second most frequent reason why people go to the doctor, outnumbered only by the common cold. We thought, “If posture is so linked to back pain, and the hard part about posture is being mindful about it, what if we created some sort of scalable solution that helps people to be more aware of their posture?”

Thrilled, the team started to work on rough prototypes that could help solve the problem they had identified. Initially, they experimented with sensors installed in chairs and webcams. Soon enough, however, they realized that people regularly moved throughout the day, so the solution would have to be a device that followed them wherever they went during the day. Thus, a few years before terms like “wearables” and “IoT” became commonplace, Perkash and her teammates started thinking of ways to use sensors in devices that could be attached to the body.

As the series of clumsy and low-resolution prototypes evolved, Perakash's conviction about the potential of the idea rapidly increased. There was only one problem.

The Goodman conundrum

Despite the steady evolution of the idea exploration around the back pain problem, Goodman was unhappy with the direction of the project. He did not like working on the issue of posture and back pain, which he associated with negative personal experiences that carried significant emotional baggage for him. Additionally, he considered that specific problem to be intractable, and one that would eventually make the whole team frustrated. Perakash tried to reason with him, with little success:

It was very difficult. We said: "Look, we don't have to go with the back pain and posture idea, but give us some other viable ideas that you can get behind." And none of the ideas that he had were very well built out. He would say: "Well, I would love to do something in water rights or in agriculture." And I would ask for the specific problem to solve, but there just wasn't much from him. At the end of the day, he wasn't bringing any viable ideas to the table.

Perakash, Wang, and Chang genuinely liked Goodman, so they kept trying to find a way to motivate him about the idea. But in late May 2011 (one month before the incubation was over), Goodman came forward firmly one day to say, "If you guys are going to keep pushing in this direction, this is probably not going to be a good fit for me."

As the team considered the ultimatum, they agreed that the problem with losing him was not just that Goodman had become a friend and that they wanted to work with him. His background in big data analysis was rare at the time, and would certainly prove valuable in the future of any company that they ultimately started. Additionally, the equity for the new business had already been split between the four cofounders and the vesting structure in place was loose, which meant that the discussion about Goodman's tenure and shares could become ugly.

The blind faith consideration

Adding to the drama, despite their excitement with the potential of the posture idea, Perakash, Wang, and Chang felt insecure about how successful they could be if they really decided to pursue it. None of them had a background in connected devices or wearables, or even in launching (any) physical products. Perakash detailed the fears around what she considered "blind faith":

All of us were total newbies; the company was at the mercy of our learning curve and at the mercy of our ability to build the right team. And you always have very imperfect information. Other than knowing that posture and back pain are big problems to solve and having some ideas for how to potentially solve it, we had no clue about how to build the right team, how to achieve product-market fit, how big this very nascent market could realistically become, or even how much it was going to cost to launch and build the company. Also, everybody told us that hardware is hard and that investors are not keen to put money into deals that require a lot of working capital.

To make matters worse, the deadline to launch the business was less than a month away. Yet Perakash had so many questions to be answered. What should she do about Goodman? How could that decision affect the team and their plans? Should they persist with the posture idea and focus on that full time after the incubation period?

FROM ONE EARLY PRODUCT TO A DECISION ABOUT A PLATFORM APPROACH

Once the incubation program was over, Perakash, Wang, and Chang decided to name their fledgling company Lumo Bodytech (Lumo), a subtle reference to the ideas of “luminous” and “lightness”—a good characterization of the mission they were ultimately trying to accomplish by improving people’s posture through improved mindfulness. Based on their previous work experiences, they agreed to be, respectively, CEO, COO, and CTO of the new start-up.

Kickstarting: The Lumo Back

In mid-2011, Wang had drawn a sketch for a concept of what would eventually become the first product to be launched by Lumo (see **Exhibit 1** for a copy of the sketch). The team had been dabbling with the motor of a toy helicopter when the idea came up: a patch to be worn on the back that would vibrate as needed to help correct back posture. Wang described the early experiments:

We took a toy helicopter motor and taped it to our backs. And when you made the motor go, you could feel it. One of the first moments when we realized it could work was during a meeting with someone from Mayo Clinic. I was slouching and Andrew, who had the controller in his hand, made the motor vibrate. And I sat up. So I was like, “Okay, this could really work.”

Shortly thereafter, the entrepreneurs were selected for a demo day promoted by the website VentureBeat, in San Francisco. At the time, their prototype consisted of a plastic box and a wire—the box was kept as a controller in the pocket of the user, and the wire went up to the back through a hole in the person’s pocket (see **Exhibit 2** for images of the early prototypes). Naturally, the trio felt very far from ready to participate in the demo day, and considered forfeiting their entry, but one piece of advice from Brady changed their minds: “He said ‘no, no, you have to do this—just remember, it is just a magic show, you just have to show them the concept and the idea, and that is it,’” recalled Wang. He was right. Competing with more than 150 participants, Lumo’s demo ended up winning the top award of the day.

Excited by the early proof of concept, the team set off to find an industrial designer to help develop the actual product. Through the Innovation Endeavors network, they were introduced to Mike Nuttall, the legendary British designer who had cofounded IDEO, in 1991. He enjoyed Lumo’s story and decided to help, in exchange for a small equity percentage and modest payment. Wang, who was in charge of the product function, did not take the help for granted:

Honestly, I had no idea about what we needed to do. To the extent that when people said “ID,” I would think of infectious diseases, not industrial design. And then, every once in a while, we would be sitting there and I would think: “Okay, I need to give some direction to this guy who basically built the first Microsoft

mouse; what am I doing here?” There is no other way that I could be in that position other than the fact that I was a founder, trying to work it out.

In August 2012, the Lumo Back—a band to be worn around the waist—was ready to be launched. It was first made available on Kickstarter⁵ (see **Exhibit 3** for images of the Lumo Back and a screen shot of the Kickstarter campaign). For a short period of time, Lumo also made retail tests at Best Buy and Apple Stores, but quickly refocused on direct sales due the expensive revenue-sharing structures and the significant inventory risks that resulted from using those channels.

Lessons Learned and a Second Try: The Lumo Lift

The months that followed the Lumo Back launch were filled with lessons for Perakash and her cofounders. Primarily, they realized that most of the people interested in the product suffered from extreme back pain—for this group, the alternative to their product was either to live with the debilitating pain or use large, uncomfortable braces.

Mainstream consumers, however, perceived the Lumo Back as too hardcore for casual wear. Their willingness to improve posture was not sufficiently intense to justify the weird appearance and discomfort issues that they associated with Lumo’s product. This reality made the Lumo Back too much of a niche solution, with limited sales potential. Wang knew that something had to be done on the product end: “We needed to figure out how to create a product that was more casual, friendlier, easier to wear, and easier to take off.”

Once more with the help of Nuttall, the start-up developed its second product, the Lumo Lift. It was a far more elegant device that attached magnetically to the user’s shirt and looked like a small, sleek lapel pin. It discreetly vibrated to remind the user to straighten up as needed. Another innovation was its integration with a smartphone application, also developed by Lumo, which tracked the number of hours of good posture the user had accomplished in the day, as well as ancillary data, such as steps and calories. Based on the information generated, it automatically suggested specific exercises and stretches that helped to improve posture (see **Exhibit 4** for images of the Lumo Lift).

In January 2014, the team finally launched the Lumo Lift over a crowdfunding campaign, similar to what had been done with the Lumo Back a year and a half earlier. This time, however, Perakash decided to organize the campaign on Lumo’s own website. She explained the rationale:

We realized that Kickstarter was great because they had their own audience, but we could not do an analysis of the audience traffic because it all went directly to the Kickstarter platform. If we could get traffic to flow to our own website, we would be building our own brand equity and getting customer insights for ourselves.

⁵ Kickstarter is one of the world’s largest crowdfunding platforms. For more details, see <https://www.kickstarter.com/>.

The self-organized campaign turned out to be a success, closing at over \$1 million in a few weeks. As expected, sales of the Lumo Lift quickly became much more significant than those of the Lumo Back, which was gradually discontinued and stopped being sold a few months later.

An Important Decision: Single Product or Platform?

Less than a year after the launch of the Lumo Lift, the mood of euphoria and optimism started to be slowly replaced by concern at the Lumo office. The initial hype around wearables was dying down fast in the second half of 2014, exactly when Lumo's financial needs to operate became more urgent. The hordes of investors that had been knocking on Perakash's door at the time of the launch had completely lost interest in the sector.

The drama was only interrupted by the fact that Lumo only had cash to fund its operations for one more month. At the time, one of the largest clothing manufacturers in Asia, who had Nike and Lululemon as some of its main clients, approached Perakash with a proposal. The Asian firm was interested in figuring out how to embed electronics in garments, and believed that a wearable running product would be a good starting point. They were ready to immediately invest and lead Lumo's much-needed Series B round if the start-up—which was then solely focused on posture solutions—agreed to work on that new running device.

Reflections on a platform strategy

The idea of a running product was not new for the Lumo cofounders. In the past, they had explored potential future offerings for the business, and a device focused on improving a runner's form seemed a natural evolution from posture products. As they had envisioned, such a product would have an expanded scope, providing feedback not only on running posture, but also on specific metrics related to efficient running, such as bouncing, braking, core rotation, pelvic drop, and cadence.

The possibility of launching what would become the Lumo Run and transitioning to a company with a portfolio of products—as opposed to a single offering—could have many positive consequences for Lumo. First, there were obvious synergies in working with an investor from the sports clothing industry to develop such a product.

Additionally, the move could be used to leverage Lumo's relationship with big brands, since investors and consumers would start to see Lumo as a platform, able to develop multiple solutions around motion science data. Along those lines, its business model could also be expanded to explore licensing and software as a service models based on the wealth of data being generated. Chang explained the point from an engineering perspective:

If we could build a platform that can scale, that would be quite powerful and very interesting. Because now we have this framework for posture and activity detection, and all these analyzers. When we have a greater volume of data, high-dimensional data, we could be able to build even richer and more robust applications with that data.

Furthermore, the new product had the potential to “reignite excitement and bring our current investors back on board,” reflected Perakash. Lastly, it was also a good way to rally the team

after the hard period of financial constraints, as Wang explained: “It goes back to our nature of being a bit restless and variety junkies—we could go and try to purely execute against this one thing, but we have been doing this for the last year, what is next?”

Despite all the possible benefits, however, Perakash knew that the decision was far from being straightforward. Adding the new product would mean a deviation from a strategy to which the whole team had dedicated substantial time and energy. Moreover, she knew that in most companies, ensuring the success of the core product normally was a condition to start thinking about developing a portfolio of products. “Focus is something we have always struggled with; ideally, we obviously wanted both depth and breadth, but sometimes you have to pick one,” Perakash observed.

She knew her timeframe to make a decision was about to be over. Which was it going to be?

THE CHALLENGES OF FUNDING THE BUSINESS

The funding crisis that had led to Perakash being forced to decide between focusing on a single product and adopting a platform approach was not the only hurdle in Lumo’s funding trajectory. On the contrary, since the first \$150,000 received from Innovation Endeavors in 2011, as runway funding during the incubation program, the company’s fundraising record was populated with a multiplicity of sources, structures, and obstacles.

2011: The Seed Round

In late 2011, fresh out of incubation—and still in prototyping mode—Perakash and her cofounders had set off to raise a seed round that would buy enough time for the team to design and build its first product. Perakash recalled the difficult circumstances:

We were in survival mode. And what I found most challenging, at the time and even in general, was that very few investors wanted to be first. They all wanted to be second. They were all looking for validation from a first investor. So we were having all these positive conversations with investors that were wanting to participate, but only once there was a lead investor.

Following that realization, the Lumo cofounders refocused on convincing the partners of Innovation Endeavors, who generally did not lead rounds, to help. After a few weeks, their efforts paid-off. Eric Schmidt’s firm committed to leading Lumo’s seed round and, as expected, generated a domino effect throughout the tech investing community. In order to close the round, however, Perakash also reached out to the network of the Stanford GSB. And the response amazed her:

The Stanford GSB network came through for us in a way that I had never fully understood before. When we raised that seed round, we had a very rudimentary prototype—it wasn’t even a working prototype. But I would say that over 50 percent of our seed investors came from somewhere in the GSB network. So many of our \$100,000, \$200,000, \$300,000 checks came from GSB professors and alums.

Between November 2011 and March 2012, Lumo raised \$1.1 million through multiple tranches. The investment was structured as a convertible loan, to be converted at a discount into a future equity round of financing.

2012: Kickstarter and Series A

In August of 2012, when the development of the Lumo Back was completed, Perakash and her team successfully completed the Kickstarter campaign that made possible the launch of their first product. The crowdfunding effort generated more than \$200,000 in the first month alone. On top of the funds, however, the campaign ended up attracting significant attention for the company. Chang recounted: “It was an exciting time for the team, there was a lot of media coming through all the time.”

Boosted by the positive market attention, shortly thereafter Lumo was able to raise a \$5 million Series A round, from investors such as Madrona Venture Group and Yahoo cofounder Jerry Yang. The Lumo team would put the new capital towards sales and marketing, product development, and engineering initiatives.

January 2014: The “Hail Mary” Crowdfunding

Unfortunately, the underwhelming sales performance of Lumo Back quickly became apparent. A new, improved product would have to be developed and launched in time to keep Lumo afloat. In January 2014, Perakash decided to rely again on the general public to save the company:

We were really low on cash. So we did our own crowdfunding campaign for the Lumo Lift, praying it would work. If this did not succeed, we would die right then. It was coming down to the wire, and we had to do something. It was our Hail Mary.

It worked. Within a month, the Lumo Lift crowdfunding campaign had raised \$1.2 million. And, this time, the media attention was even more intense than during the Kickstarter campaign from a few years earlier. The team’s morale was replenished and the generalized sense of anxiety subsided, as described by Chang:

It was just ridiculous how much PR we got, it was awesome! We got a lot of great, positive reviews and there was also a real-time counter that popped up whenever a new purchase was made—teammates loved seeing that, because they felt closer to the customer and to the change they were about to bring.

TV crews wanted to meet with Perakash frequently—those were extra busy days for her, but in a good way. She felt optimistic regarding the future of Lumo; after all, the company was about to finally take off. This optimism was such that when one of the board members suggested that she use the positive momentum to raise a Series B round, she said “No, let’s wait.” Sales were about to explode and, once that happened, Lumo’s valuation would be even better, she believed.

June 2014: Another Equity Round or Venture Debt?

Despite her plans to delay Lumo's Series B round, Perkash acknowledged that an intermediary cash injection was needed to bridge its capital requirements related to production of the Lumo Lift. Two alternatives were available to the CEO at the time: a \$2.5 million venture debt package; and an offer from Lumo's current investors, who were willing to invest a smaller amount.

At first sight, the debt route seemed ideal. If they chose that option the cofounders would not see their stakes in the company further diluted, contrary to what would happen in an equity round. Additionally, the amount available in the debt deal was substantially larger than that offered by Lumo's equity investors. This was important because securing a larger amount meant a longer runway before the company had to worry about fundraising again; to be constantly fundraising inevitably generated negative ripple effects across the company. Chang explained what normally happened from an engineering standpoint during those times:

It becomes a distraction for everyone. Mostly for Monisha, but it does bleed out into other teams. For example, I need to jump on various calls or presentations. And sometimes we also need to build out small little prototypes of what we are doing for investor presentations so they understand where we are going.

Despite the benefits of the venture debt option, however, a key member of Lumo's Board of Directors expressly opposed the move—he advocated for the company to take the smaller investment from its current investors. As representatives of the company's investors, the director was concerned with the legal priority that debt holders have over equity holders in case of bankruptcy—i.e., the fact that if Lumo were to ever be liquidated, the debt holders would have priority to receive whatever amount was due to them in full. Wang recounted:

Investors absolutely hate being second in line. It makes some of them crazy. Finally, our board director said, “No, I don't want you to do this.” And we responded, “Well, they are offering us more money.” It was a pretty tough conversation with our board member.

Confronted with the difficult situation, Perkash acknowledged that “it was a defining moment as an entrepreneur.” Should she follow what her board had recommended and accept the equity investment, regardless of its size? Or was it a better idea to stand up for the venture debt option, against the investors that had supported her until then?

2015: The “Strategic Investor”

Perkash's optimistic predictions about the demand for their product proved wrong. Consumer excitement about wearable devices plummeted several months after the launch of Lumo Lift and the traditional funding sources for the industry dried up immediately thereafter. The CEO was forced to confront her previous decision to delay fundraising, as the company was one payroll away from shutting down. The lesson was clear: “Fill your canister when you are at the river; don't wait until you are thirsty,” Perkash quoted regretfully.

The last-minute offer from an Asian clothing manufacturer, to lead a \$10 million Series B round, was the only saving grace in sight. As part of the deal, however, Lumo would have to start development of a new running product—and this was not the only collateral effect of accepting the investment offer. Perkash explained:

Taking this money from the strategic investor was a double-edged sword. On one hand, it allowed to us live to fight another day. On the other hand, it came with some loss of autonomy. One of the challenges of trying to build a company is that you are frequently at the mercy of your funding source to a certain extent—that may start to dictate what you do. And at some points you are just trying to survive, so you do things because you just have to.

A few months after the Asian investment, with the Lumo Run already underway, the Series B was extended to add another \$5 million tranche.

LEARNING TO HIRE AND FIRE ON THE JOB

Another area that presented hitches to Perkash and her cofounders was the management of Lumo's hiring and firing needs. As soon as the company started hiring the first employees—just after its \$1.1 million seed round, in 2012—the trio had realized that they “did not know what good looked like,” according to Perkash.

A Few Notes on Hiring

Throughout the years, however, the entrepreneurs had developed a selection process that focused on identifying what they believed were the two most important qualities of any new hire: skills and culture fit. In order to find candidates with the required skill set—in addition to the traditional resume analysis and interviews—the Lumo cofounders believed in the importance of actually looking at how the applicants worked. This was considered especially valuable for technical roles, as Wang explained:

We have a lot of homework assignments for our candidates. For example, if we are hiring a UX designer, we have them redesign the product experience to solve what they think does not work, and make it better. That helps because we can see tactically how they think. On the product side, we ask them to do presentations about the roadmap or to put together what they think the plan should be for the next 30, 60, 90, and 120 days.

The approach was also used to evaluate the culture fit level of candidates for business roles. Perkash used cases and small projects to observe how the individual collaborated, reacted to feedback, and avoided being defensive, among other elements she believed were good indicators. A graduate of the Stanford GSB, the CEO wanted to make sure the potential hire could thrive in a culture of constant and transparent feedback:

One of my favorite interview questions is, “What is the toughest feedback you have ever been given?” Once one candidate responded, “So, in the sixth grade I was told this and that...” To me, that response signals somebody who either does

not have a lot of self-awareness or is not willing to make herself vulnerable. I want people who really are humble and self-aware.

Lastly, in order to confirm the impressions formed during the process, the cofounders relied on reference checks. They personally called individuals suggested by the candidate, but also tried to backchannel and use their own relationships to obtain more information. Notwithstanding all the attention dedicated to the hiring efforts, the trio felt that “a lot of times you don’t know what you are going to get until they show up—it’s always a crapshoot,” as Wang explained.

The Difficult Decision to Let Someone Go: Three Tales

Often, however, harder than hiring the right people was deciding whether to fire someone. In between the clear-cut, textbook cases, Perkash had wrestled with several ambiguous situations which had no obvious answer. In three of those instances, she had really struggled. Even years later, she would catch herself thinking: “What would have been the right decisions in such situations?”

The brilliant engineer

He could easily do the work of three people and was perceived as a brilliant engineer. At one point, it actually felt like the whole company had developed a dependence on him. He had accumulated so much institutional knowledge that it would be hard for Lumo to recover if he ever left. Perkash believed in the maxim that nobody is indispensable, but it sure felt like that employee was an exception. “It is hard not to be enamored by brilliance when you are trying to solve hard technical problems,” reflected Perkash.

Unfortunately, it was difficult to be around the engineer and his big ego. He could be very grumpy at times, frequently made negative comments about colleagues, and butted heads with other engineers. Perkash recalled: “There was so much drama, sometimes he was just a drag to be around and the culture felt toxic.”

The former classmate

She had graduated from the Stanford GSB with Perkash and had a personal connection to the company’s mission to improve human movement and biomechanics. For over two years she did good work and was regularly recognized for it.

However, it became clear that her perception about her own performance was significantly more positive than that of Perkash and her cofounders. Eventually, she started complaining about the responsibilities she had been given—she felt ready for more. Perkash responded by pointing out some areas in which she was expected to excel before her role was expanded. This person was not excited about those areas.

The overqualified manager

His resume was perfect for the whole: He had many years of background in the precise functional role Lumo needed to fill. And he was excited to join such a vibrant early-stage company.

Shortly after being hired, however, he was unsatisfied with his support structure—a team of two, one-fifth the size of the team he had managed in his previous job. The budget available for his area was also substantially lower than he expected, based on his previous experiences. He started questioning how he was supposed to deliver on his results under those circumstances. Chang recalled: “He was very, very smart—a person that I respected a lot—but he came from a much larger company, so there was a disconnect.”

THE WAY AHEAD

As Perakash finished her run, she contemplated the future of Lumo. She knew many more surprises and obstacles would inevitably find their way to the company. Nonetheless, after over five arduous years—where there had been fires to put out on issues like dealing with an unhappy teammate, navigating product development, keeping Lumo financially healthy, and finding and retaining the right employees—she felt ready.

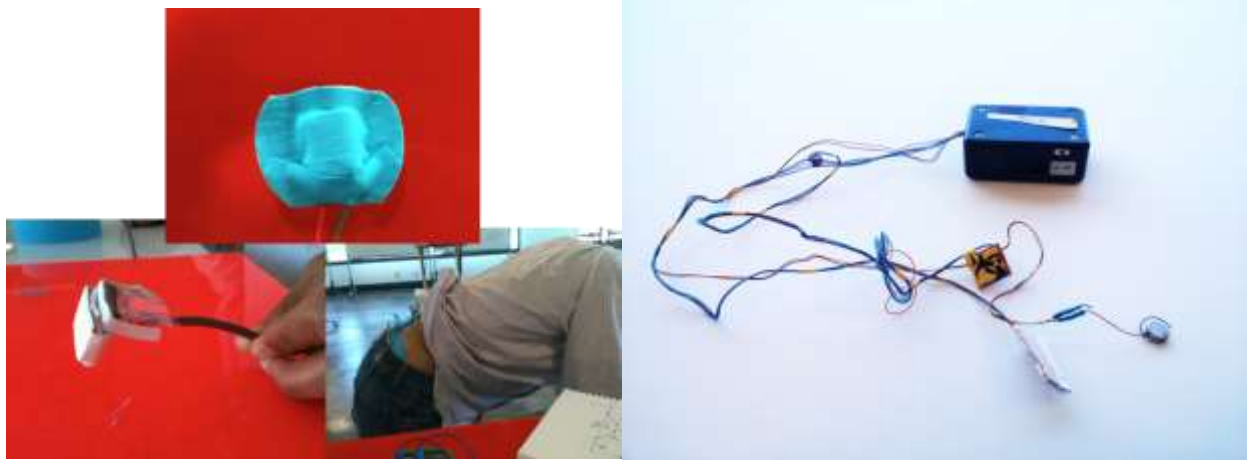
Exhibit 1
Lumo Back - Original Sketch



Source: Lumo Bodytech.

Exhibit 2 **Lumo Back—Early Prototypes**

Generation 2



Generation 3



Generation 4



Source: Lumo Bodytech.

Exhibit 3 Lumo Back—Release and Kickstarter Campaign

Lumo Back Kickstarter Model



Kickstarter Campaign



Source: Lumo Bodytech.

Exhibit 4
Lumo Lift



Source: Lumo Bodytech.