

GLOBAL HEALTH

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Photo courtesy of Embrace

A young patient in the Embrace infant warmer

EMBRACE: Deciding on a Hybrid Structure

BANGALORE AND SAN FRANCISCO

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THE PROBLEM/SOLUTION SPACE

More than 20 million infants are born each year at a low birth weight (i.e., weighing less than 5.5 pounds). According to the World Health Organization, low birth weight (LBW) may directly or indirectly contribute to 60-80 percent of all neonatal deaths.¹ This problem disproportionately occurs in developing countries, where more than 95 percent of all LBW babies are born.² Infants with low birth weight are 20 times more likely to die than heavier babies,³ particularly when they do not have access to life-saving innovations that are common in developed country settings.

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The prevention and management of hypothermia, when a baby's core temperature drops below the required level for normal metabolism and body function, is a critical intervention for reducing neonatal mortality and morbidity. Products and techniques that prevent hypothermia have the potential to reduce infant deaths and complications from LBW by 18-42 percent.⁴ This includes minimizing life-long health problems in LBW survivors, such as early onset of diabetes, heart disease, and low IQ.⁵ The best practice treatment for hypothermia is to place infants in incubators until they gain enough weight to regulate their own body temperature. However, state-of-the-art incubators cost as much as \$20,000 per unit, making them inaccessible to cost-constrained environments. While lower-cost incubators and baby warmers, which range from \$3,000 to \$1,000, have been designed to address the needs of healthcare providers in developing countries, they are still cost prohibitive in many areas. They also require a constant supply of electricity, which is often not available.

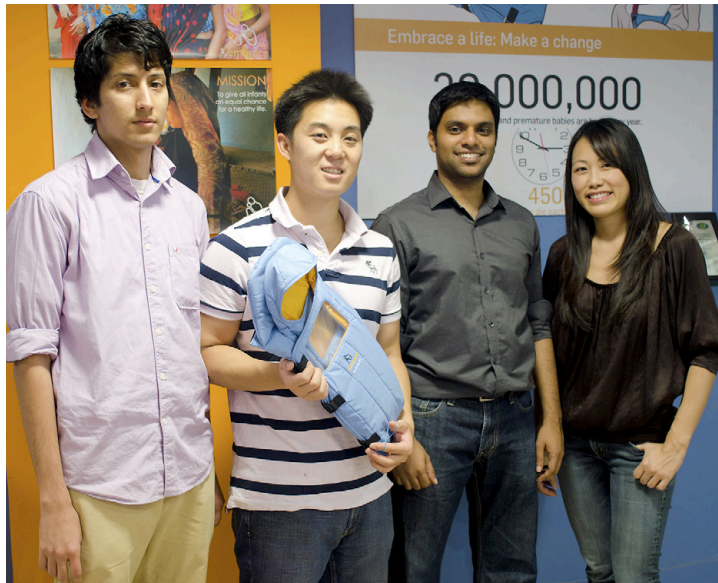


Photo courtesy of Embrace

Members of the early Embrace team (from left to right): Panicker, Liang, Nag Murty, and Chen

ABOUT EMBRACE

The idea for the Embrace infant warmer was developed as part of Stanford University's Design for Extreme Affordability course—a program that challenges interdisciplinary teams of graduate students to pioneer effective, affordable products and services to meet the unique needs of the world's poor. In 2007, business student Jane Chen teamed up with engineering students Rahul Panicker and Linus Liang to address the problem of hypothermia in LBW babies by designing a better incubator for the developing world that would cost around \$200.⁶

By the end of the course, the team had developed an early prototype that looked

much like a sleeping bag for babies. While the form factor was unique, the real breakthrough was a reusable pouch of phase-change material that could be heated to 98-degrees Fahrenheit and maintain that temperature for several hours. When inserted into the sleeping bag, it would safely and reliably keep the baby warm. As designed, the warmer was small and light, transportable, and easy to use. Importantly, it also had the potential to be produced at a fraction of the cost of available incubators, even those already designed for the developing world.⁷

Enthusiastic about the possibility of helping millions of low-birth-weight babies, Chen, Liang, and Panicker decided to pursue their idea beyond the end of the course. One of the first decisions they made was about the type of entity they should form. According to Chen, they debated whether to form a nonprofit entity or a for-profit social enterprise to take the infant warmer forward. As she explained in a blog post: "Given the inherent risk associated with what we were attempting to do (an untested management team bringing to market an unprecedented medical device) and the uncertainty of the commercial viability of the product, and given the type of customers we wanted to serve, we decided the

best option was to go down the nonprofit route and created a 501(c)(3). However, even as a nonprofit, we believed in running the organization as a business; we would sell the product at a margin, and any ‘profits’ would be reinvested back into the company to fulfill our longer term goal: to create a line of affordable medical devices that could save the lives of millions of at-risk babies.”⁸

ONE CHALLENGE: DECIDING ON A HYBRID STRUCTURE

With this structure in place, the Embrace team spent the next couple of years focused on transitioning from a prototype to a market-ready product. “Little did we know the time and capital it would require for us to get from a concept to a manufactured and clinically tested product—not to mention what it would take to build a distribution channel to sell our product,” Chen noted.⁹ The team also underestimated the amount of management

time needed to raise this capital as a nonprofit. This was “precious time,” Chen realized, “that would be taken away from building the product and the infrastructure needed to deliver the product, and to make impact at the scale we had envisioned.”¹⁰

Embrace achieved its greatest fundraising success getting philanthropic donations from high-worth individuals. “We worked with some foundations,” Chen said, “but we found that individuals were more willing to take a risk on us during our early stages of development.”¹¹ The team also discovered that many

foundations were more inclined to fund health service delivery over product development. “We were working on an untested, unproven medical device,” Chen recalled. “It took us a long time to convince foundations to support our work when they were used to funding more traditional [nongovernmental organization] NGO-type models.”

In order to identify potential donors, Embrace initially relied on input from its board of directors. “We did a lot of network fundraising, which is quite common in the nonprofit space,” Chen stated. “We would host some small events, where board members or donors would invite 10 or 15 of their friends and ask them to get involved. We really tried to stay away from the big gala events because I think those tend to be capital and time intensive relative to the returns. So we focused more on small events and one-on-one meetings with people who had a relatively high likelihood of being interested.”

Before long, Chen, who took on the role of CEO, estimated that she was spending roughly 80 percent of her time focused on fundraising. Moreover, the Embrace team found that it was difficult to pay for long-term product development, manufacturing, inventory management, and distribution agreements with “small bits and pieces of donor money.”¹² The team had several discussions about how to access capital in a way that would be more appropriate to fund these traditional business expenses. The co-founders were still just as committed to their mission of serving customers at the base of the socio-economic pyramid and they recognized that being a nonprofit had certain advantages when it came to building relationships: “People were more willing to work with us as a nonprofit organization, especially other NGOs, the government, and a lot of the hospitals we were talking to about doing our clinical studies. In fact, some hospitals said very explicitly, ‘We do not want to work with you if you’re doing this as a for-profit venture.’”¹³ How-

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ever, as the organization's capital requirements increased, they worried that Embrace was outgrowing the nonprofit structure it had adopted at its inception.

After consulting with the board, other advisors, and legal experts, the team thought that, at this stage in its development, becoming a for-profit or hybrid organization could position it for faster growth and greater scalability because it would be able to access larger sums of money in the form of equity investments. However, they also realized that as a company with private investors who would be seeking a financial return on their invested capital, it could be more difficult for Embrace to justify targeting markets and customer segments that were considered small or otherwise unattractive by commercial standards. The team also worried about mission creep. For example, private investors might encourage Embrace to shift its model to selling fewer units at a higher price to healthcare providers that could afford to pay. Yet the founders wanted the product to be as accessible to as many people as possible, even if that meant exercising the flexibility to give it away at a subsidized price to providers who couldn't afford it.¹⁴

Given these various pros and cons, the Embrace team was attracted to the idea of creating a hybrid structure that would allow the organization to capitalize on the best of nonprofit and for-profit models. To help them make the decision, Embrace developed a framework to help it evaluate its options and determine the optimal legal structure for the organization.¹⁵

- **Vision/values** Is Embrace a commercial enterprise with social mission or a socially-driven enterprise using commercial practices?
- **Core competencies/assets** What are Embrace's current core competencies/assets – research and development, supply chain, education/advocacy? What does Embrace want to develop versus outsource?
- **Stakeholder considerations** What will be attractive to investors of interest? How will different legal structures impact our relationships/interactions with our value chain?
- **Sustainability/funding** Is a non-profit model a good fit with Embrace's proposed business model? Are Embrace's current funding sources sustainable or and will they allow it to scale?
- **Legal/taxation** What legal implications will each legal structure entail? What are the tax implications of selecting one structure over another?
- **Governance/compliance** What level of discipline/scrutiny and reporting structure is Embrace prepared to take on? What added regulatory and compliance costs does each structure entail?

By critically answering these questions, the team determined that a hybrid organization represented the best alternative compared to a pure nonprofit or for-profit approach. However, with few precedents of companies that had successfully adopted hybrid structures to consider, it was not clear how to structure the hybrid model.

THE SOLUTION: IMPLEMENTING A STRUCTURE WITH CLEAR COMMUNICATION AND WELL-DEFINED ROLES

By working with creative legal experts with experience in nonprofit and for-profit organization structures, the team found a solution. Ultimately, Embrace decided to spin out a for-profit arm of the company, called Embrace Innovations, while maintaining the nonprofit entity, which would be known as Embrace Global. At the most basic level, the

nonprofit arm owns the intellectual property for the infant warmer technology and licenses it to the for-profit organization, which pays a royalty for each unit sold.¹⁶ The nonprofit accepts philanthropic contributions so it can purchase warmers and donate them to NGO partners to reach the poorest communities and develop educational programs to promote newborn health, with a focus on hypothermia. The for-profit arm raises its funding from venture capitalists and impact investors to fund the capital-intensive work of research and development, manufacturing, clinical testing, and establishing the sales and distribution infrastructure to sell the product to customers who can afford to pay for it. As Chen summarized, “Having both a for-profit and a nonprofit organization working side by side allows us to leverage private capital, in addition to philanthropy, to ultimately serve all segments of the market with our product.”¹⁷



Photo courtesy of Embrace

A family watches over its LBW baby

As part of the transition, Chen and Panicker assumed leadership positions with the for-profit, with Chen also taking a non-voting seat (to maintain an arm’s length distance) on the nonprofit’s board of directors. Liang assumed a special advisor role with the nonprofit. In early 2012, Embrace Innovations closed a Series A round of financing from Khosla Impact Fund and Capricorn Investment Group, giving it a “launch pad” for testing the new structure.¹⁸

When asked about the challenges the team faced in orchestrating the transition to the hybrid model, Chen acknowledged that, “It has been quite time consuming to smooth things out as we’ve gotten into this new structure.” For example, although the team devoted significant time and energy to involving major donors in the decision to create a hybrid structure and communicating the game plan to them, there was still some confusion when the changes took effect. “The nonprofit has continued to do fundraising to support its operations—it will be years before this whole thing is sustainable if it works out the way we hope it will. But we still have a lot of donor education to do. We need them to understand that just because we have a for-profit entity doesn’t mean that the nonprofit doesn’t need money anymore.” To help address this issue, Chen recommended, “making the message really simple, crisp, and clear as you’re communicating with external parties.”

Another challenge is the complexity created by running two separate organizations. “It’s difficult enough to operate one organization,” Chen admitted. “With two entities, we have to be sure we have the manpower and processes in place to keep them as seamlessly integrated as possible, while at the same time having an onsite agreement to make sure there isn’t a conflict of interest. There are a lot of issues to figure out.”¹⁹ She added, “There’s always going to be some overlap in what the two entities are working on, but the key is to make sure that the roles and responsibilities of each are really well defined and that there’s alignment.” To accomplish this, the leaders of both organizations focused on establishing strong accountability and clear lines of communication.

They also sought opportunities for the two organizations to learn from one another. “On our nonprofit side,” reported Chen, “most employees are from the nonprofit sector where they’ve been used to being very rigorous and thorough with regards to program development and looking at the problem more holistically. On the for-profit side, employees take a more ‘Silicon Valley start-up’ type of approach in terms of moving very quickly and iterating constantly. I think both sides have had to adjust to one another. And it’s been a great learning experience as we figure out how to balance these two complementary skill sets.”

Reflecting on the overall decision to move to a hybrid model, Chen reiterated, “We’ve definitely learned a lot over the last year. But, in retrospect, I think it was the right decision.” She continued: “Hybrid structures have become sexy in the social enterprise space. When people come to me asking about whether they should take this approach, I tell them to think really hard about whether it makes sense. If they can figure out a structure that works within a single entity, it’s a lot less work. But the most important thing is to start with your mission and then adopt a structure that allows you to achieve it.” ♦

NOTES

- 1 “Care of the Preterm and/or Low-Birth-Weight Infant,” World Health Organization, http://www.who.int/maternal_child_adolescent/topics/newborn/care_of_preterm/en/ (May 28, 2013).
- 2 Ibid.
- 3 “Prematurity and Low Birth Weight,” PBS News Hour, March 19, 2009, <http://www.pbs.org/newshour/globalhealth/diseases/premature.html> (May 28, 2013).
- 4 W.M.V. Wariki and R. Mori, “Interventions to prevent hypothermia at birth in preterm and/or low-birth-weight infants,” The WHO Reproductive Health Library, http://apps.who.int/rhl/newborn/cd004210_Warikiwvmv_com/en/ (May 28, 2013).
- 5 “Why Embrace,” Embrace, <http://www.embraceglobal.org/main/why> (May 28, 2013).
- 6 Lyn Denend and Bill Meehan, “Acumen Fund and Embrace: From the Leading Edge of Social Venture Investing,” April 14, 2011, http://cb.hbsp.harvard.edu/cb/web/product_detail.seam?E=2765236&R=SM191-PDF-ENG&conversationId=2787830 (May 28, 2013).
- 7 Ibid.
- 8 Jane Chen, “Should Your Business Be a Nonprofit or For-Profit?” HBR Blog, February 1, 2013, http://blogs.hbr.org/cs/2013/02/should_your_business_be_nonpro.html (May 28, 2013).
- 9 Ibid.
- 10 Ibid.
- 11 All quotations are from an interview conducted by the authors, unless otherwise cited.
- 12 Denend and Meehan, op. cit.
- 13 Ibid.
- 14 Ibid.
- 15 Embrace Legal Structure: Final Recommendations, Internal Presentation, August 19, 2010.
- 16 Chen, op. cit.
- 17 Ibid.
- 18 Ibid.
- 19 Denend and Meehan, op. cit.