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Design Thinking: A Culture of Innovation

Sean Koh

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Sean Koh is the managing director of D-Catalyst, an innovation consultancy that helps companies transform and grow their businesses. He is also an adjunct lecturer at the Singapore Management University where he teaches "Design Thinking and Innovation." He attended the d.school while he was a graduate student at Stanford University.

Many organisations are jumping on the design thinking bandwagon, but, as **Sean Koh** tells us, the method requires substance and not just form.

About 20 million low birth-weight and premature babies are born each year, and 450 of them die each hour.[1] This startling statistic occurs mainly in developing countries where limited access to proper healthcare facilities results in thousands of infants dying from hypothermia every day.

Enter Embrace, a student project turned social enterprise that has designed an innovative solution to this problem.[2] After conducting extensive ethnographic fieldwork and going through dozens of prototypes, Embrace has developed an infant warmer that does not require a continuous supply of electricity and costs only a fraction of existing solutions. With a much more affordable product, more babies can be saved,

leading to better health outcomes and increase in long-term productivity. Lower infant mortality rates could, in turn, alleviate poverty in many developing countries. Convinced of the device's enormous potential to impact millions of lives around the world, GE has entered into a partnership with Embrace to distribute its products.[3]

This is the power of design thinking.

What Exactly is Design Thinking?

Tim Brown, CEO of IDEO, describes design thinking as "a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity."[4] Roger Martin, Dean of the Rotman School of Management at the University of Toronto, suggests that design thinking is a form of "abductive reasoning," where "a person or organisation instilled with that discipline is constantly seeking a fruitful balance between reliability and validity, between art and science, between intuition and analytics, and between exploration and exploitation."[5]

Simply put, design thinking is a human-centric, interdisciplinary approach towards innovation. Being user-centric does not mean asking customers what they want; rather, it is about finding out what they need. Of course, consumers often realise retrospectively what they really need only when a solution goes to market. In design thinking, social research methods are employed to uncover these latent needs and extract business opportunities. This allows design thinkers to anticipate demand and create game-changing solutions.

Conventional problem-solving approaches often rely on a group of subject matter experts in the same domain. Design thinking, on the other hand, leverages the collective wisdom of a team with diverse expertise and experiences. By tackling the problem from different perspectives, the team is able to break away from prevailing norms to design innovative solutions.

A Social Innovation Strategy

Design thinking first took root in the field of consumer product design with the realisation that the same human-centric methodology used to design award-winning products could be applied just as effectively to design services, processes, strategy and even business models. As companies turn to innovation as a differentiating factor in today's challenging business climate, design thinking has emerged as a viable alternative approach to product development. Firms like Procter & Gamble and Kaiser Permanente have taken it one step further by incorporating design thinking into their culture to spur innovation within the organisation.

The pace of innovation in the social space has picked up tremendously in recent years as well, making the sector ripe for applying design thinking principles.

The growth of the social space is, in part, driven by a growing awareness that non-profit organisations can function as businesses, provide solutions to people at the bottom of the pyramid, and yet be financially sustainable at the same time.[6] While the business proposition of offering lower margins and achieving profitability through scale is sound, it is often difficult to execute and achieve. Compared to their corporate world counterparts, non-profit organisations deal with customers with extreme needs—low spending power, poor infrastructure, little or no education, amongst others. This makes solving social problems a lot more challenging than business problems.

What's more, catering to the needs of the bottom of the pyramid is not just about scaling down products and services to make it cheaper. Due to the unique circumstances of this target segment, organisations need to adopt a complete rethink—not just in terms of product or service design, but in the business model as well. As a strategy for social innovation, design thinking can help companies create new and more socially conscious products and services.

Designing Products for the Poor

One social enterprise that has employed design thinking effectively is d.light. The organisation's mission is to "enable households without reliable electricity to attain the same quality of life as those with electricity."[7] It all started when its founders took a design thinking class at Stanford University's Hasso Plattner Institute of Design (otherwise known as the "d.school") in 2006. Titled "Design for Extreme Affordability,"[8] the objective of the course was to bring together graduate students of various fields to create comprehensive solutions for the world's poor.

By immersing themselves in the lives of rural villagers, the founders of d.light quickly realised that kerosene lamps, despite their widespread usage, had numerous downsides—the recurring cost of using them was significant, they were a key cause of indoor air pollution and fires, and they were not bright enough for children to study effectively by. These insights led to the goal of bringing clean, safe and bright light to every household—a market, according to co-founder Sam Goldman that consists of up to 1.6 billion individuals.[9] d.light now develops and markets solar and LED-powered energy and lighting solutions to the rural households as well as the general market.

Starting as a student project, d.light has now become an established start-up backed by venture funds such as Draper Fisher Jurvetson, Garage Technology Ventures and Acumen Fund. They have launched three products (solar light and mobile charger, and two variations of solar lighting) so far, and are on track to hit their target of impacting the lives of 50 million people by 2015. Its core value of customer-centricity is a key factor behind their success and drives everything from product design to manufacturing to distribution.

Empowering Organisations and Individuals

In Singapore, an organisation that uses design thinking for social impact is Syinc.[10] One such project involves rural sanitation in Cambodia, where the objective is to help the World Toilet Organization (WTO) develop an aspirational marketing strategy to increase ownership of toilets amongst households.

The ethnographic research process centred on gaining insights about the aspirations, habits and worldview of the rural Cambodian villager. This involved interviews with villagers, local officials, toilet distributors and manufacturers, students, local businessmen, as well as WTO representatives in Phnom Penh. It also included observations of different stakeholder and demographic groups in various walks of life in rural Cambodia. A number of surprising insights were gained. For example, the toilet shelter was just as, if not more, important to the villagers than the toilet. Even though the villagers had sufficient money to purchase a toilet, most would defer the purchase until they had saved enough to build a shelter. These findings led to recommendations on how WTO could redesign the business model and marketing strategy of its social enterprise in Cambodia.

Besides its consultancy work, Syinc also aims to equip youth with the tools, connections and skills to create social change. Design thinking is one of the key skills that Syinc imparts in their workshops on social entrepreneurship. Just as design thinking has begun to feature prominently in mainstream education around the world, it can also be used in social education to develop and empower change-makers.

> " Design thinking is not just a process; it is a mindset, a way of life. Most companies, treating design thinking as a linear process, expect repeatable and unique results all the time.

Human-Centric Policymaking

Design thinking can also be applied to policy formulation. To create better user experiences for citizens, governments around the world have begun to adopt a more human-centric approach. One example is MindLab, a cross-ministerial innovation unit in Denmark that actively involves the general public and private companies in creating new solutions for society. To capture the reality on the ground, MindLab's methodology centres around, among others, qualitative research methods such as ethnography and observational studies—a marked departure from government bodies that normally rely almost entirely on numbers and statistics. More importantly, their organisational structure and processes are designed to not only encourage, but also enable, collaboration across various government entities. To date, MindLab has successfully designed government initiatives to help more entrepreneurs realise their business potential; developed ideas to improve youths' understanding of personal finances; and simplified complex tax procedures and processes.[11]

As for organisations looking to better design policies to encourage social entrepreneurship, they can look to HackFwd as a source of inspiration. An early-stage German-based technology incubator, HackFwd supports and invests in Europe's top tech developers to help them build their own ventures. What makes HackFwd stand out from other incubators is that its policies are all designed with the end-user in mind. In fact, its entire business model, with the help of IDEO, was designed from scratch. For instance, HackFwd roughly matches the annual salary of the tech developer for a year and makes all its contractual terms public.[12] This solves the major pain points of any budding entrepreneur seeking external funding—financial and ownership uncertainty. Such user-centric initiatives have helped HackFwd quickly establish a community of startups since its inception in 2009.

In a similar way, social organisations and foundations can adopt the principles of design thinking to design better programmes for its beneficiaries.

Building a Culture

Many companies have hopped onto the design thinking bandwagon, getting their people to learn the process in the hope that it will transform them into innovative organisations. However, not many have succeeded, leading Bruce Nussbaum, a one-time advocate, to declare design thinking as a "failed experiment."[13]

The reason behind the low success rate is simple. Design thinking is not just a process; it is a mindset, a way of life. Most companies, treating design thinking as a linear process, expect repeatable and unique results all the time.

Furthermore, they assume their employees will turn into design thinking experts after going through a workshop or two. Frustration mounts when the fruits of the training do not translate into the spectacular, innovative outcomes publicised in business case studies and magazines.

Design thinking is not a quick-fix formula for innovation. It is a culture that has to be nurtured and developed over time. Just like any change management initiative, employees need time to gradually believe in and adopt design thinking as their way of life. Organisations also have to play their part by empowering their people and creating an environment that allows innovation to thrive. Here are a few key steps that companies need to keep in mind when building a design thinking culture:

- Inculcate the value of empathy: One of the key principles behind design thinking is user-centricity. Management needs to lead the way and walk the talk by exercising empathy within the organisation. This will then influence employees to adopt a humanistic approach in their work.

- Develop a safe-to-fail environment: Prototyping is part and parcel of design thinking. In a highly creative culture, failure is not just tolerated—it is embraced. Processes and even the organisational structure need to be redesigned to give people the space to experiment and fail. This is extremely difficult to achieve, given the constant pressure on companies to deliver results and profits. It is thus essential for organisations to be disciplined in adopting a long-term perspective, instead of focusing on short-term outcomes.

- Grow a culture of collaboration: Design thinking leverages on the collective wisdom of an interdisciplinary team—the more diverse the group, the better. Fostering cross-functional cooperation and accepting differing views will encourage diversity within the company. These measures will build an inclusive organisation which helps to break down silos and promote collaboration.

Design thinking has been demonstrated to be effective in creating social impact and building innovative organisations. To fully harness its potential, organisations need to be patient. Growing a culture is an investment that requires time and discipline, and it is not something that can be accomplished overnight.

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[1] Extracted from Embrace's website at http://embraceglobal.org/main/.

[2] The founders of Embrace started this project while they were students at Stanford University's Hasso Plattner Institute of Design.

[3] This is part of GE's Healthymagination initiative which aims to develop simpler and cheaper solutions to global health problems. Find out more at www.healthymagination.com/progress/technology/embrace/.

[4] Tim Brown, *Design Thinking* (Harvard Business Review, June 2008).

[5] Roger Martin, *The Design of Business: Why Design Thinking is the Next Competitive Advantage* (Harvard Business Press, 2009).

[6] C.K. Prahalad and Stuart L. Hart, "The Fortune at the Bottom of the Pyramid," strategy+business, issue 26, first quarter (2002).

[7] Extracted from d.light's website at www.dlightdesign.com/about_who_we_are.php.

[8] The course is now known as "Entrepreneurial Design for Extreme Affordability."

[9] Elsa Wenzel, "d.light rolls our affordable solar LED lamps," *CNET*, 17 June 2008, http://news.cnet.com/8301-11128_3-9970627-54.html.

[10] Disclaimer: I have worked with Syinc on several projects.

[11] Mindlab, www.mind-lab.dk/en.

[12] Hackfwd, http://hackfwd.com/.

[13] Bruce Nussbaum, "Design Thinking Is a Failed Experiment. So What's Next?" *Fast Company*, 6 April 2011, www.fastcodesign.com/1663558/design-thinking-is-a-failed-experiment-so-whats-next.