

Making the Transition from Cartesian Coordinates to Ambiguity

By Avi Kullar

A magnetic field with a peak amplitude of .01 nano Tesla and 100 MHz frequency points north-west. A vertical circular loop of 5cm radius rotates slowly about its vertical axis. Express the amplitude of the EMF induced in the loop as a function of its position angle.



Some of us, with a degree in sciences, have answered a similar question either on an exam or in the field. The precise solution can be reached by following a series of steps while solving an assortment of equations. (For the curious minds, amplitude of the EMF is $5\pi^2 \sin \omega t \cos \theta$ nano Volt in south-west direction)

While, pursuing a degree in engineering, solving these equations was within my comfort zone. I found pleasure in substituting one equation into another to find that unique solution, for example - integrating surface areas into volumes and convoluting signals as they went through a communication system.

As I walked through the corridors at Rotman during my first year of MBA, the boundaries of my comfort zone were gradually expanded. I learnt that discount factors used to evaluate different business options can be viscous, managing people in organizations can be fluid and strategy evolves constantly as external and internal environments impose a dynamic set of equations and concepts like game-theory. The lines were blurring and shades of grey were emerging.

Then, as if that was not enough, I walked into the Designworks™ studio after first year at Rotman and my vision was to change...forever. Rather than focusing my eyes to look for one unique solution, I was now going to look for ambiguity and something fluid that adapts to changing environments. Because therein lies innovation.

I met Heather Fraser, Director of Business Design Initiatives, at a breakfast meeting. We started talking; she mentioned her experiment with business design thinking and invited me to participate in the summer fellowship program. At that point, after my first year MBA, I was still unsure of where I wanted to head with my management degree – was it consulting, finance, healthcare, not for profit or becoming a home-maker? At the same time, Business Design was creating a buzz both at Rotman and on a global stage with Davos Conference of 2006 devoted to ‘Innovation, Creativity and Design Strategy’ –Heather was describing something that was non-conventional and ground-breaking

and that caught my attention. I decided to give it a try.

My friends asked me about my plans for the summer. I deliberated and my short reply was - I am working with Heather on 'business design'. The truth was I didn't know beyond this. However, the sparkle in Heather's eye told me that this was right.

The first day I walked into the studio, I saw some familiar faces from Rotman and some new faces from Ontario College of Art and Design. A group of ten of us had been chosen with a diverse skill set and unique backgrounds to pilot a consulting project using business design principles. We were introduced to our teams and the project- and that's where it all started.

Our team was assigned to work with a medical device company. Our task was to gain operational efficiencies and enhance the experience of their end customer. The client defined the business problem from their perspective in terms of attrition rates, backlog of orders and distribution channel. As a first step we re-defined the problem from the standpoint of the customer. Then as we plunged into deep user understanding, the assignment morphed into something completely different. We spoke with real life clients (Susan, Cynthia, John and many others- names changed), who shared their intimate life stories with us through photo journals, stories and face to face conversations.

The project started out as a typical business assignment and unfolded into something more profound that deeply touched human life. For me, it was not a business problem anymore but rather a mission to enhance Susan's quality of life as she went through pregnancy and make her more secure about her future. It was not just about opportunity cost or scalability but an opportunity to give Cynthia peace of mind so she could sleep through the night and not have to constantly monitor her little son. The objective had expanded from increasing sales to encouraging John, who had given up hope. That connection with Susan, Cynthia and John, whose needs went beyond just a medical device but rather a hassle free experience with a sense of security, was overwhelming and inspired us as our team plunged into generating new ideas and prototyping new business models.

Using people's needs as fodder, we developed a story of an ideal customer experience. The story was rich and aimed at making Cynthia, Susan and John's life easier. From the story we picked up design points - specific interactions with the company that enhanced overall customer experience - and refined them. There were days when we came across a dead end or an intersection with several possible avenues. We were working with intangible data, with human experiences and anecdotes. Translating them into operational processes brought along ambiguity and frustration. At this stage, we could not rely on a spreadsheet or a software application but rather the ability to distill through customer interviews to articulate real user needs.

The story of that ideal customer experience was rich and powerful. We shared it with the

internal stakeholders of the company to get feedback and to evaluate the feasibility of design points that the team had generated. The response was overwhelming. They were moved by the personas of John, Cynthia and Susan.

We worked with them to refine ideas and prototype solutions. The emotional connection had transformed the relation between a company representative and customer to something that was much more human and deep rooted.

During the entire process from research to generating ideas and prototyping, we did not create one spreadsheet, did not crunch any numbers, rather we simply opened our eyes and ears to what the customer was saying – we had gone deeper than the conventional market research to understand motivations because what an individual says, thinks and believes can be very different. The final result was a new business model that re-allocated scarce resources to give the company operational efficiencies but more importantly was designed to offer an enhanced experience for customers like Susan, Cynthia and John – a win-win solution.

During the summer, there were occasions when we stayed up late to meet deadlines and ate take-out food as we waited at Kinkos for our printing job. However, our interaction with the end customer had attached a real meaning to all this work that went beyond numbers to touch lives of real people. I was working alongside my colleagues who brought their diverse experiences and expertise as we progressed along this design journey. I remember as the first few weeks of the project unfolded, we were not just soaking in the project details but also getting to know each other – our competencies, areas where we could build expertise and building an element of trust towards each other. We were all learning together to think from the left side of the brain and as the summer progressed; we bonded not only as team members but also as friends beyond the workspace.

‘Business Design’ was just a phrase for me until I experienced it last summer and its meaning unfolded as we went through the three gears - user understanding, ideation and multiple prototyping (or concept visualization) and strategic business design. When I attended the conference organized by Rotman School of Management in New York in October 2006, I was in the audience nodding as top innovation minds like Roger Martin, Larry Keeley and Bruce Nussbaum gave their interpretation of business design. I could relate their theories with my own summer experience.

The principles of business design have broad application. It is not just about innovating and staying ahead of the curve but it can also allow us to meet altruistic objectives like setting up charitable foundations, enhancing patient experience at a hospital and/or laying the framework of microeconomic community enterprises – my current project at Designworks™.

This summer just when I had decided to take the summer off, I got another opportunity to put business design principles into practice on a new project at Designworks™. This

time our objective was to establish a strategic framework to help regionally-based micro and small sized enterprises compete in a global marketplace. The team comprised of a well-established Toronto based designer, a professor from OCAD, a fellow student from Rotman and me, along with Heather's continuous support and vision.

The project, a first look into a multi-stage, multi-faceted issue with parallels across many countries, was focused on the artisans in a beautiful mountainous town in central Mexico. In this case the spotlight was not just on the consumer in New York, who is fascinated by an ethnic ceramic pot but also on the artisans, who express their identity while decorating a piece of pottery or throwing a pot on wheel. While, the expert designer on our team had already looked at the consumer end, the principles of business design applied at the artisan end allowed us to understand the latter's needs.

The intent of the team was to refocus the attention of traditional development models from 'giving' (aid-based) to creating a sustainable competitive business model that empowers artisans and motivates them to revitalize a traditional skill that has been degraded by imitations, while achieving social, economic and environmental sustainability – a win-win solution.

Business design goes beyond traditional MBA theories to not only integrate statistics with marketing and strategy theory but also integrates sociology and anthropology with architecture, medicine etc. to innovate and extrapolate.

The more I think about business design; I see a strong connection between business design and Integrative Thinking™. Integrative Thinking™ invokes us to step back from the action-outcome (AO) model (that aims to solve 'end of pipe approaches') and incorporate thinking as a critical step into this two step model resulting in a TAO – Thinking, Action, Outcome framework. It discourages an individual from taking anything for its face value but provokes us to dig deeper to understand the reason why a certain action results in an outcome and to integrate that knowledge in the decision making process. Business design implements TAO using its three gears.

As I look back at last summer, the experience was phenomenal. I learnt the need to push my limits and to challenge my biases continuously. I learnt and practiced ethnographic research that goes beyond the surface to reveal deep user understanding. The rich insights gathered during ethnography were then synthesized using various design concepts like - experiential mapping, storyboarding, prototyping design points and creating personas. This was a new way of thinking and given my engineering background, also pushed me to look beyond numbers towards the human side.

The first summer experience opened up my horizons to look at consulting as a career option, to get up everyday and feel like I can make a change in someone's life and learn from new assignments while integrating theories and designing new models. It made me much more comfortable to dwell in ambiguity and to not just seek a solution but find the

best one that fits well into the constraints.

However, the second experience was even more profound in that not only did it bring me closer to micro-economic development issues but also closer to non-conventional clients like artisans. I remember during our preliminary research, before we had gone down to Mexico; our mental image of the artisan clusters was that of these poor artisans, who were uninformed, ignorant and completely dependent on the state for support. However, when we got down there and met them in person and understood them not just as artisans but as human beings with needs, our biases were removed and we re-framed the client as an entrepreneur who was seeking a collaborative framework that was more appropriate for information exchange and for tools to function in a global market. This was a critical insight.

I recognize that engineers and scientists need to find unique solutions and aim for utmost precision but as managers focusing all our attention to achieve clarity can sometimes lead to blind spots. As I wrap up my second project at Designworks™, my mental models have relaxed to accommodate fluidity as a positive element rather than fighting it to design an innovative business solution.

I have come to believe that business design is a skill that needs to be experienced for truly appreciating it and practiced to gain expertise in it. As a Rotman graduate and an alumni of Designworks™, I am making the transition from Cartesian coordinates to ambiguity. I invite you to give it a try.