

CULTURAL ASPECTS OF DESIGN THINKING

Is Design Thinking more easily embraced by some cultures and impossible for others?

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“What now matters is the design and delivery of value. That needs design thinking. That needs creative thinking. Judgment thinking alone is not going to be enough. Most people, in business and elsewhere, have done very well on judgment thinking. Such people are rarely aware of the need for ‘design thinking’. They find it difficult to conceive that there is a whole other aspect of thinking that is different from judgment thinking. It is not that such people are complacent. It is simply that they do not know that there is another aspect to thinking.”

-Edward de Bono, Why So Stupid? How the Human Race Has Never Really Learned to Think

‘Design thinking’ has become the currently popular buzzword in the business world. What seems to be the latest new business tool to many has always been a ‘natural’ part of our world. Although it has become such a popular pastime in business circles to discuss design thinking, many people are unsure of what the true definition is and conveniently fashion one to suit their own purposes. Others see it as no big deal, preferring to define design thinking as plain old common sense. Perhaps that latter attitude is the result of incorrect definitions of design thinking such as that offered by Wikipedia: “Design Thinking is a process for practical creative resolution of problems or issues that looks for an improved future result.” DT, the author of the design blog ‘Design Sojourn’ defines it as “... a thinking process that anchors your decision making with multi-disciplinary influences.” One of the most enthusiastic proponents of design thinking is the phenomenally successful design practice IDEO. Tim Brown, the CEO of IDEO, was very clear about the value of design thinking to their success in an address to the ‘Dean’s Innovative Leadership Series’ at the MIT Sloan School of Management. He stated that “At IDEO, a ‘design thinker’ must not only be intensely collaborative, but ‘empathic’ as well as have a craft to making things real in the world. Since design flavors virtually all of our experiences, from products to services to spaces, a design thinker must explore a ‘landscape of innovation’ that has to do with people, their needs, technology and business.” John Maeda, President of the Rhode Island School of Design, expressed another observation of the unique ways designers think in his blog, ‘Redesigning Leadership’ by remarking “I see now that designers are people who can make information emotional and visceral, who can make a bigger impact by thoughtfully marrying form and content. They are ‘experience perfectionists’, the ones who always ask about the space a meeting will occur in so they can arrange the room and have music or images playing when people walk in. They are obsessed with materials; they can have a completely literate and thoughtful conversation about the width of a rubber band being used as a book binding, and how it will change the way the book is perceived.” Clearly, the true definition of design thinking is far more complicated and richer than that offered by Wikipedia.

Chuck Owen, Professor of Design at the Illinois Institute of Technology and a long-time proponent of design thinking who understands its’ nuances better than most, very deftly compares design thinking to scientific thinking by observing that “Where the scientist sifts facts to discover patterns and insights, the designer invents new patterns and concepts to address facts and possibilities. Science is driven by the need for *understanding*. To achieve this goal, it values correctness, in the sense that theories can be evaluated for whether they are correct as can be determined with current data. It also values *thoroughness* because understanding must be thorough to remove uncertainty. *Testability* is valued because closure demands that theories be tested and determined to be correct or incorrect.” Outcomes of this process are measured in such terms as *True/False, Correct/Incorrect, Complete/Incomplete, and Provable/Unprovable*. Design thinking is in many ways the obverse of scientific thinking. Where the scientist sifts facts to discover patterns and insights, the designer invents new patterns and concepts to address facts and possibilities.” Jeanne Liedtka reinforces this point in her article ‘Strategy as Design’ by stating “The most fundamental difference between design and science is that design thinking deals primarily with what does not yet exist; while scientists deal with explaining what does. That scientists discover the laws that govern today’s reality, while designers invent a different future is a common theme.

According to Owen, "Design exists because of the need for *Form*. The form giver, in the broadest use of the term, creates order. Because the world of design is the world of the artificial, the values of design tend to be ones associated with human needs and environmental needs created by or resulting from human actions. *Cultural Fit* is associated with aesthetic issues; *Appropriateness* targets the wide range of physiological, cognitive, social and cultural human factors; and *Effectiveness* gauges functionality and utility. For *Cultural Fit*, good measures are *Fresh/Stale*, *Fits/Doesn't Fit*, and *Elegant/Inelegant*; for *Appropriateness*, *Appropriate/Inappropriate* and *Works/Doesn't Work* (from the human factors perspective) are helpful. From a utility perspective, *Works/Doesn't Work*, *Sustainable/Unsustainable* and *Better/Worse* measure *Effectiveness*." Thus, while both methods of thinking are hypothesis-driven, the design hypothesis differs from the scientific hypothesis."

Design thinking, for someone who hasn't been exposed to it over a long period of time, can be quite difficult to engage in because it requires distinct patterns of behavior and a significant shift in the traditional rules of business interaction. Perhaps the most difficult of all the personal adjustments required is what the Stanford dSchool refers to as 'checking your discipline (and ego) at the door'. Design thinking requires a completely open mind, ready and able to embrace other ideas and consider them fully. And if those ideas don't seem to work, it requires the exploration of modifications to them that may eventually give them efficacy. This attitude goes completely counter to the long ingrained business pattern of representing (and protecting) your professional discipline. Not wanting to be upstaged by another discipline or by someone of lower corporate rank is a characteristic that destroys design thinking. Getting past this attitude is perhaps the most difficult obstacle to design thinking that one will encounter. It requires great personal discipline and a strong sense of trust, not to mention a heaping portion of self-confidence. In addition, the environment in which this activity takes place must encourage and nurture the openness of discussion and the individual political safety of full participation. Some environments are better than others in offering these enhancements, as will be discussed later in this paper. Other personal qualities necessary for full engagement in design thinking include the following: a human-centered focus; the ability to communicate well verbally, in writing, and visually; the ability to develop stories that describe potential solutions; the ability to envision things that don't yet exist; the ability to keep the 'big picture' in mind while thinking about details; the ability to systematically analyze qualitative values; and finally, the ability to avoid making a choice among alternative proposals until the last possible moment... and the willingness to modify that choice later, if necessary. While many of these characteristics may seem to many as 'common sense', the unique combination of all of them that enables us to work through uncertainty and vagueness towards a 'best possible' solution is a quality that sets design thinking apart from the other types of thinking. The next part of this paper will explore the inhibitors that surround us and that limit our ability to reach better solutions to challenges (design and otherwise) through a more inclusive thinking process.

In my world of academia, there are distinct differences in disciplinary processes that I'm quite sure are reflections of the parallel professional disciplines. As a member of a multi-disciplinary research team, I have come to understand that the process of many of my colleagues is to ground 'research' in a study of the past. Papers are rich with data, statistical comparisons, empirical formulas, 'laws', and validation of all processes and theories by multiple citations of previous works. My industrial design colleagues and I have remarked on several occasions when asked about the efficacy of positions taken in our papers, that 'We're designers... we make it up. We invent stories that prove what we want to do is the right thing.' As humorous as this might sound (yes, they laughed at us), it's true. Designers do make things up. We see things that aren't there. We imagine situations that can't be tested or quantified. We live in a world of ambiguity, emotion and great fun. As DT in Design Sojourn said, 'Businesses use analysis to achieve certainty, and rarely move forward on things they do not have certainty about. Business needs to embrace and attach value to the art of storytelling, the art of rhetoric (in its classical sense of using stories to move people to action); which is a key tool of the designer, and the one by which he or she demonstrates the value of that which has yet to be proven.' While this opinion was directed at business, the same could be said of other disciplines rooted in scientific thinking,

especially engineering. These disciplinary differences in ways of thinking and doing are significant barriers to successful collaboration, but they can be overcome. Many corporations have abandoned their 'silo' mentalities and practices out of the necessities of competition. Decreasing product development cycles and improving quality have demanded new levels of communication and co-operation. Unfortunately, the lack of competitive pressures has slowed the abandonment of disciplinary silos in universities. There is, however, a movement among academics to dissolve these barriers and change will eventually prevail.

When operating in the security of their disciplinary silos, engineers are naturally drawn to scientific thinking, which usually defines a solution before the design process begins and through testing and refinement leads to a 'correct' solution, one that is 'proven'. Unfortunately, this process often ignores issues that would only be raised through the collaborative dialogue and design thinking that multi-disciplinary discussion would stimulate. The various disciplines of business are also naturally inclined to scientific thinking, which leads to similarly restrained results of that methodology. In his book Designing Business; Business Design, John Edson describes the perils of disciplinary silos within organizations as follows: 'Empowering the drive to create products aimed at the needs of real people is this question: Does the business culture favor conversation-or is it stuck in hierarchical control? Classic business management education values control and it depends on deductive reasoning to create that control.' 'The most important business transformations cannot be proven before they are undertaken,' promotes Roger Martin, the Dean of the Rotman School of Management at the University of Toronto. 'Analytical and deductive reasoning practices in business destroy value.' Design Sojourn reinforces that point by saying '...designers have the ability, through their consumer insights and boundless thinking, to come up with untested opportunities that businesses are not able to due to the culture and way in which companies are run. The common results-focused business culture thrives on the tried and tested, which business leaders know is not conducive for the future and the next big product breakthrough. It is the designer's ability to manage and work with the unknown (concepts, designs, etc.) that is going to help win the day. A perfect partnership, don't you think?'

It should be clear to all that disciplinary traditions must evolve to a more collaborative and communicative level to achieve true product innovation and relevance. Design thinking is the language that can dissolve these disciplinary barriers, but there must be a willingness on everyone's part to suspend their disciplinary traditions for the common good, to embrace a new way of thinking, to unencumber their natural child-like ability to imagine a better solution that is not necessarily rooted in statistics and prior art. As other disciplines discover the value of design thinking and the fruits of multi-disciplinary collaboration, many are also finding design to be the key discipline in initiating these collaborations. The pioneering multi-disciplinary graduate program at Stanford University, the dSchool, states that 'Having worked with hundreds of organizations to design products, services, and environments, we believe true innovation happens when strong multi-disciplinary groups come together, build a collaborative culture, and explore the intersection of their different points of view. Many talk about multi-disciplinary collaboration, but few are actually successful at sustaining attempts to see what will happen. Even strong partners often lose interest because they cannot get along well enough to see the fruits of the collaboration. We believe having designers in the mix is key to success in multi-disciplinary collaboration and critical to uncovering unexplored areas of innovation. Designers provide a methodology that all parties can embrace and a design environment conducive to innovation. In our experience, design thinking is the glue that holds these kinds of communities together and makes them successful.'

While getting disciplines to talk to each other and work for a common good is a substantial challenge, it will never happen unless the business in which they reside permit it. As long as businesses report their profits quarterly and their value is disproportionately tied to those reports, business decisions will be driven by those financial results. It's widely understood that this pressure leads to short-term planning and adjustments, often to the detriment of long-term growth and stability. Consider GM, which was compelled to reduce costs (and value) to improve quarterly results and eventually found themselves at the bottom of a downward spiral of quality and

innovation erosion. Business education doesn't stress design as a business tool. It could be argued that business students aren't even being taught (or encouraged) to be imaginative or innovative. In a recent article in 'Fast Company', Roger Martin (Dean, Rotman School of Management) discussed these problems with the conclusion that design offers many of the answers. "For any company that chooses to innovate, the foremost challenge is this," Martin said. "Are you willing to step back and ask, 'What's the problem we're trying to solve?' Well, that's what designers do: They take on a mystery, some abstract challenge, and they try to create a solution." He then referred to the typical business practice of crunching numbers, analyzing data, and ultimately re-defining the problem "so it isn't a mystery anymore; it's something they've done 12 times before," Martin says. "Most don't avail themselves of the designer's tools – they don't think like designers – and so they are ill-prepared for an economy where the winners are determined by design. We're telling (business) students that the big bucks are made by administering linear improvements – getting better and better at essentially doing the same thing. But the real challenge lies in getting better and better at a different thing: devising clever solutions to wickedly difficult problems."

Even if companies encourage and otherwise facilitate their employees to collaborate, there are other cultural inhibitors to design thinking. If a young marketing professional is in a 'design thinking' session in which her boss is participating, will she be comfortable in talking freely? Will she worry that she may be upstaging her boss? Will she be treading on the 'turf' of someone from another discipline who is close friends with her boss? These and endless other political 'traps' are sure to inhibit unrestrained participation. Only when an atmosphere of total 'career immunity' is offered can people be expected to open up and think in a truly uninhibited way. In corporate settings, such an atmosphere can only be established over a period of time in which participants are encouraged and rewarded for thinking beyond their comfort level and 'practicality'. When such a level is reached and exceeded with no negative consequences (instead, perhaps, positive consequences) will a functional comfort level be reached. As significant as the barriers are, there has been more progress in eliminating them in corporate environments than in others. The barriers in educational environments have been noted and while there has been some progress in eliminating them, there remains much to do. The progress to date has largely been driven from the bottom up, despite the professed embracing of multi-disciplinary collaboration touted by many administrators. Until true change comes from the top down, progress will be slow and limited. Universities must eventually give true meaning to the prefix 'uni' that is a part of what they profess to be.

To this point, 'culture' has been referred to in this paper as corporate and educational cultures. Further, these cultures should be considered as 'Western'. Are there aspects of various geo-political cultures that either inhibit or enhance propensity to design thinking? There are certainly differences in how people in different parts of the world think and it stands to reason that these differences would have an impact on design thinking. Consider, for instance, one of the unique qualities of Asians as compared to Westerners. Asians are known to have the utmost respect for the larger group and are willing to subvert their own well being for the sake of that group. Unfortunately, that attitude doesn't necessarily mean that they are more inclined to share their ideas and opinions with the group. In fact, the tendency is quite the opposite. A well-known proverb that is strongly subscribed to is 'The peg that stands out is pounded down.' There is also an ingrained respect for elders and those in positions of authority in Asian cultures. These are significant barriers to full and open participation in design thinking. Easterners also think differently than Westerners in several significant ways as detailed by Richard E. Nisbett in his book The Geography of Thought. Westerner's thought process tends to focus on objects, while Easterners view the world in terms of relationships. This difference could be a powerful contributor in a multi-disciplinary group as it could greatly enrich and expand points-of-view. When it comes to unleashing a vision of possibilities, Easterners may have an advantage over Westerners as they consider change a natural occurrence while Westerners prefer stability. Westerners also tend to use formal logical rules to understand events while Easterners accept the ebb and flow of life's events as natural and expected. Finally, Easterners prefer compromise, while Westerners lean to identifying the 'correctness' of one belief over another. It seems that

Easterners are naturally inclined to design thinking with the very significant cultural inhibition to group communication, a barrier that can (and will) be overcome, unleashing an eventual groundswell of creative thinking.

The one area that the world would most benefit from the fruits of design thinking happens to be the one discipline that is least receptive to it: government... especially national governments. By their very nature of representing citizen interests, governments severely restrict the ability to engage in design thinking. Politicians can no sooner 'check their discipline at the door' than declare that they're open to any and all solutions to government challenges. The notion of gathering opinions and considering a multitude of possible solutions is often reduced to polling constituents for the least controversial position to take and listening to their fund-raising benefactors for advice on positions. 'Public hearings, supposedly organized to hear constituent ideas for policy development are usually so formal and orchestrated that they cannot possibly approach even a base level of design thinking. There is usually no freedom of exchange and there is always a very high level of accountability involved for politicians. Even the physical environment where such hearings occur prejudices the exchange of ideas by being very hierarchical. Consider, for instance Congressional hearings where the committee members sit above those 'testifying', looking down on them. Governments are, by design, partisan. It is such an ingrained institution in all parts of the world that electorates feel well served when there is a 'bi-partisan' compromise. By definition, that implies that it is a two-sided debate... and usually involves the extreme positions. We have a long way to go before our governments embrace design thinking, especially within the framework of the transparency of democracies and the accountability of public servants to their financial benefactors. But, despite that gloomy assessment, there are some 'chinks in the armor'. Especially at the local levels of government, there are more opportunities for citizens to express themselves and share ideas with their elected officials. A very promising initiative at the national level was a series of grass-roots meetings of local citizens to offer their ideas on initiatives for the government to explore ideas and on how to accomplish them. These meetings were held in individual's homes with one of the participants responsible for recording the discussion and then e-mailing their report to the Obama campaign. Literally millions of citizens participated, representing the closest approximation of design thinking in government to date. With continuing evolution of communication capacity, this initiative may portend a new type of collaboration, based on the principles of design thinking, but limited by the structural complexities of government. If such a 'virtual thinking' process can improve the responsiveness of mega-organizations, it may well be the next step in design thinking and perhaps represent a giant step forward in user-centered government.

One can only hope.

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