SMART Design Thinking – A Strategic Perspective

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Abstract:

Every organization operates on a theory of a business, a vision of the organization covert this theory into action. The vision of the organization can be achieved through a product or service pathway which will help to meet the needs and want of the customers. As the external environmental factor of the organization is continuously changing, organizations are facing tremendous completion in the marketplace. Nowadays with the help of technology or reverse engineering or another way round competitor can know the ingredient of the product and can sale in the marketplace at a much lower price. So the concept of design thinking in view of customer benefit and benefit of the organization could be a sustainable competitive advantage of any organization. It is one of the new tools, to looking for a new way to find out business opportunity in the competitive environment. Think about how much tougher it is to reinvent a new drug delivery system (NDDS) than to design a shoe.

Keywords: Design Thinking, NDDS, SMAC, Reverse Engineering, Reachable Mutant.

Introduction: Every organization of the world is facing tremendous challenges from its competitors. These challenges are from a price of the product, the copy of product design, total service bouquets and so on. Now a days every organization are running after the technology such as SMAC (Social media, Mobile, Analytics and Cloud) to ensure the benefit to the customer in four-way like, Customer interface where Lowering cost, tighter connection through the selling and servicing chain (intimacy in a virtual world, mobile commerce and cashless economy, rise of Intelligent store), The machine interface: seizing advantage with smart products and the IoT (Internet of Things). The partner interface: Collaboration and co-creation in design and development of products and service. The employee interface: Mastering new management process in the social enterprise. Most of the Japanese car organization are innovation-driven, there are operation, product and service innovation, strategic innovation and management innovation, out of this four innovation, new product innovation and scheduling of the product are most important. An organization can highly involve in-house innovation or innovation can be outsourcing to other organization too.

The objective of the study: The objective of the study is to find out how designing thinking can power creative problem solving, drive change and deliver value to an organization from a strategic perspective window**.**
Literature review:

Designing thinking has three phases of a circle, which is including inspiration, ideation, and implementation. The designer of the product spends much more time in designing stage prototyping the solution, testing and designing feedback when they will come for a feasible solution. Designers usually engage in four types of work: observations, frameworks, imperatives, and solutions that can help to improve design thinking capabilities.
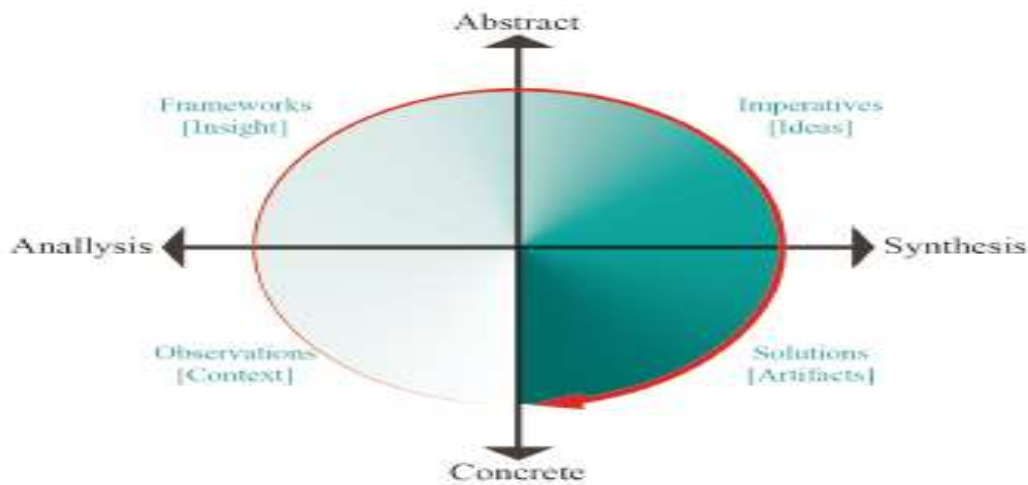
Diagram 1: Designing thinking phases.

Design Thinking is a methodology used by designers to solve complex problems and find desirable solutions for clients. When to do a designing thinking, an organization should focus on users' experiences, especially their emotional ones. To build empathy with user or customer, a designing centric organization may have to empower the employee to observe behavior and draw a conclusion about what customer needs and want. Below are the few findings of the author about design thinking.

Year	Author's Name	Finding
1990	Evans, McNeill, & Beakley	Design is a natural and ubiquitous human activity.
1996	Simon	Design has been widely considered to be the central or distinguishing activity of engineering
1997	Braha & Maimon,	Engineering lacks sufficient scientific foundations.
1999	Dorner	Design starts as a cloudy idea about how the design/product should look like and how it should work.
1999	Akin & Akin,	A good designer should be able to flexibly use different problem-solving strategies and choose the one that best meets the requirement of the situation.
2003	Braha and Reich	Design process as a generic process where designers modify either the tentative or current design or the requirement and specification, based on new information that has become available.

2005	David Kelley	A methodology to innovate routinely
2005	David Kelley	Help companies put the strategy in their vision'.
2006	David Burney	An innovative problem-solving methodology that is fast becoming an imperative business strategy
2006	Dunne & Martin,	Design of products and services is a major component of business competitiveness, to the extent that many known companies have committed themselves to becoming design leaders.
2007	Owen, 2007).	Creative people tend to work in two different ways: either as finders or as makers
2010	Shute & Becker	Being successful in today's highly technological and globally competitive world requires a person to develop and use a different set of skill than were needed before
2010	Hatchuel et al.	Design as a tool to stimulate innovation, and that design activity focused on innovation can 'emphasize future strategies based on the creation of desirable unknowns

Table 1: Literature Review

Research Gap:

The above-mentioned authors talk about the designing thinking as a strategy, but no one has talked talk about how it will help any organization to get a competitive advantage and what are the possible pathway.

The process of design thinking:

There is a distinct difference in between the regular innovation and designing thinking process. The regular thinking process is consist of ideate, define, design and develop stage but in the designing thinking empathize with the customer is more clear or directed of innovation.

Empathize: In this stage, it will help the organization to understand and listening to the customer's needs and want. To evaluate this concept organization can use the empathy map at this stage.

Define: In this stage, an organization has to synthesize all the problem they are facing in the real ground and should come to the conclusion of defining the problem. After formulating the problem, an organization can come with a different solution of the products.

Ideate: This is the stage where brainstorm or ideate can help to come up with the solution. Here multidisciplinary team also can contribute immensely. At this stage finalize the best and reject the rest.
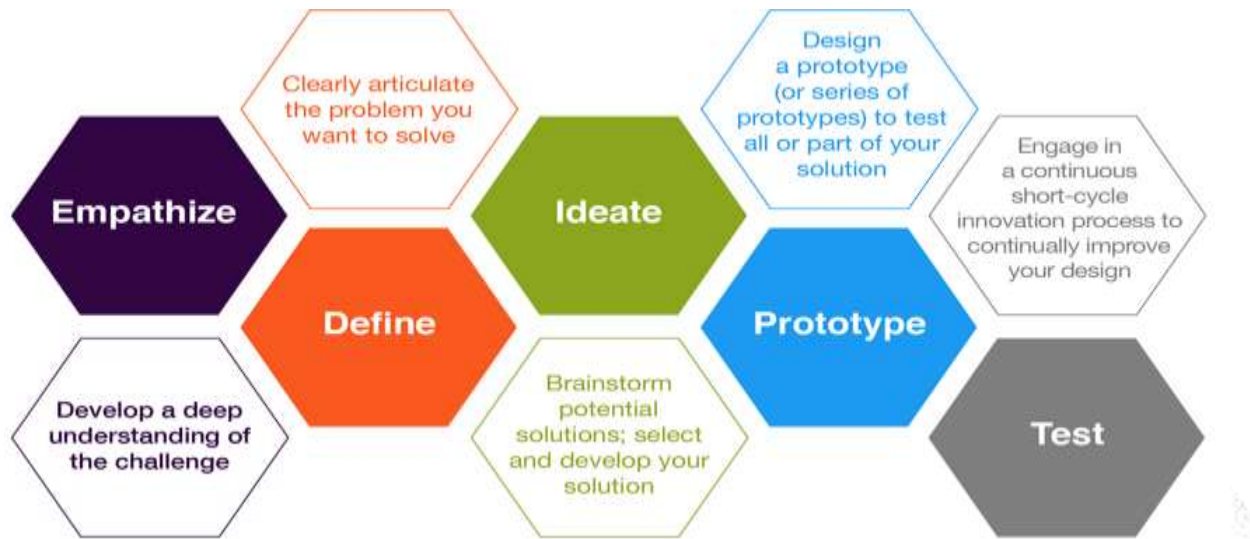
Diagram 2: Process of Design thinking

Prototype: Prototype brings a solution of the problem by a 3D diagram, clay model, sketching etc. This is a miniature form of the product. Here organization can use prototype or minimal viable product.

Test: At this stage test the prototype with the customer and take a feedback regarding where this product is going to meet the expectation of the final user or not. If it is not selected by the customer than the organization has to follow the same path once again.

Innovative Organization:

Every organization wants to be innovation in some point of the life cycle of the organization, but due to some technological, political, economic and social factor they may not be in a position for the new product development, or they can grow the organization with me too type of products.

The organization which has built an innovative culture may get the benefit out of this. The organization which has innovative culture may have a certain pinpointed component to look into.

1. **An employee should think like innovators:** an Innovative organization should allow the employee think differently in their domain, there should not be a fear factor involved in this outcome. They can learn from the failure which could the first step for the success of the project or product or service.
2. **A sharp definition of innovation**: Organization should have a clear-cut guideline about the innovation and it should be in the DNA of the organization.
3. **Comprehensive Innovation Matrix**: This matrix should have certain factor like Input, throughput, output, leadership, competency, climate and efficiency of the organization.
4. **Accountable and capable Innovation leader**: To develop an innovative product or idea, leaders involved in this journey is very much important. A leader should always motivate the team the good works.
5. **Innovative Friendly Management Process**: Here management should have a certain steps wise guideline for the innovation and should a logical thinking behind the decision.

Challenges in design thinking:

There is always a high risk involved in the designing thinking process. At a certain point of time designer may not know that the model he has made not liked by the customer, it has to be remodeling once again.

Ambiguity: Organization spends money on the innovation and expectation is predictable operation efficiency and return on investment and how will be delivered through a better experience to the customers.

Risk: There is always a calculative risk in this business if it is clicked you can get a jackpot or you can lose your bottom line. A leader needs to create an organizational culture that will allow people to innovate and move forward.

Changing expectation with the time: Organization has to continuously add value to the innovation process so that they can attend newer height in the innovation ladder. Otherwise, a competitor will get the change to copy the product or services.

Creativity: The biggest challenge for the organization is the creativity of the people to make the product very much user-friendly with value addition and cost-effectiveness.

New drug discovery system:

To know the design thinking concept very well, we have to understand the New Drug Delivery System, how it is customer centric and how this industry is coming up with a new product for the customer of a different therapeutic area. **Drug delivery** refers to approaches, formulations, technologies, and **systems** for transporting a pharmaceutical compound in the body as needed to safely achieve its desired therapeutic effect for a particular customer for a particular needs. But before delivery of the drug in the body, how a drug can be made for a particular disease or abnormalities is a great journey for design thinking. We need to know the art and science of this process for the benefit of our customer.
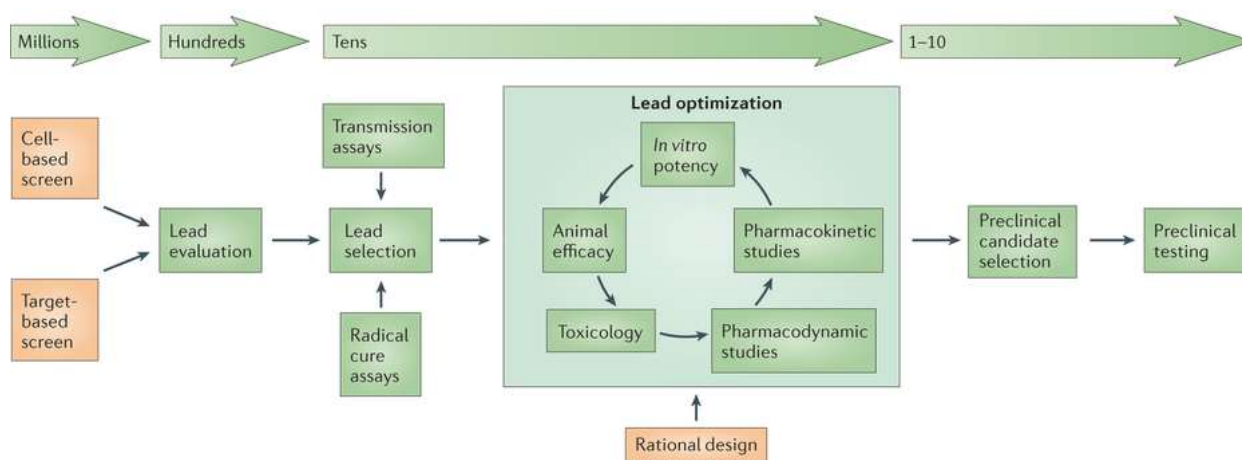
Diagram 3: New Drug Discovery Process

Design thinking in Digital Transformation:

Design thinking is very much critical for the organizations to succeed in the digital economy. As this industry looks for a mindset and methodology to create innovations that bring together:

• Customer experience (usability)
• Technology (feasibility)
• Business (viability)

It starts with an empathetic to human-centric approach that aims to uncover unmet needs of the end user (employee or a consumer). By focusing on the human experience in a highly collaborative manner, an organization can use design thinking to bring all teams together –
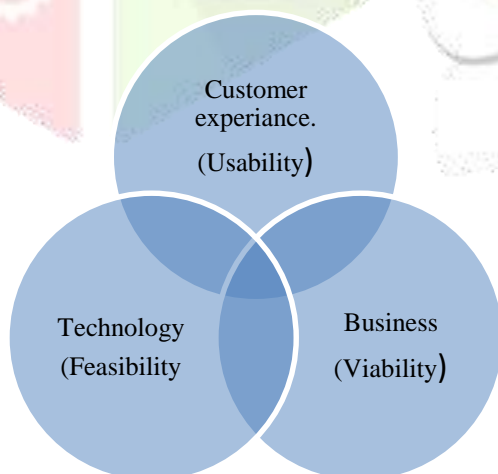Whether they are focused on technology or business – to rally behind a shared vision about the future.

Diagram 4: Designing thinking and digital transformation relationship.

It can be mentioned that digital transformation is reinventing business practices. Around the world, technological capabilities are continuously improving and in order to keep up, organizations must be agile and

innovative as they integrate these digital technologies into their day to day business practices. To stay competitive in any market, having a digital transformation strategy is a must.

The transition from business as usual to digital first is no easy feat — our digital world shifts rapidly and unpredictably. Keeping up can present a challenge and leave many unsure of how to proceed. This is where design thinking comes in.

Design thinking is a stepwise, user-centric design methodology that does not present a solution upfront but examines both present and future details of a problem and explores alternate solutions.

Digital technology transform presents problems that are complex and undefined in nature. So, using design thinking to embrace your organization's digital transformation helps tackle these problems by using a fluid, flexible, hands-on approach to interact with consumers and come up with solutions. After innovation of the customer-centric product, some of the recently talked technology like SMAC can help the organization to reach the customer for the product.

Digital Business Services customers have been immensely successful in using design thinking across a range of business processes and technologies ranging from customer engagement, digital marketing, connected experiences and business analytics. These include the introduction of new products using wearable internet of things, development of a banking product and new healthcare product or healthcare models for community care.

Sustainable Business Growth:

According to C K Prahalad in his article on "Why Sustainable is now the key driver of innovation" The organization which has started the journey towards the sustainable concept, has to go through five distinct stage of change which is described in given diagram. So it can be said that designing thinking(Stage:3) is a part of a sustainable journey and if it gives fuel to any organization for this development it will consider as a smart designing.
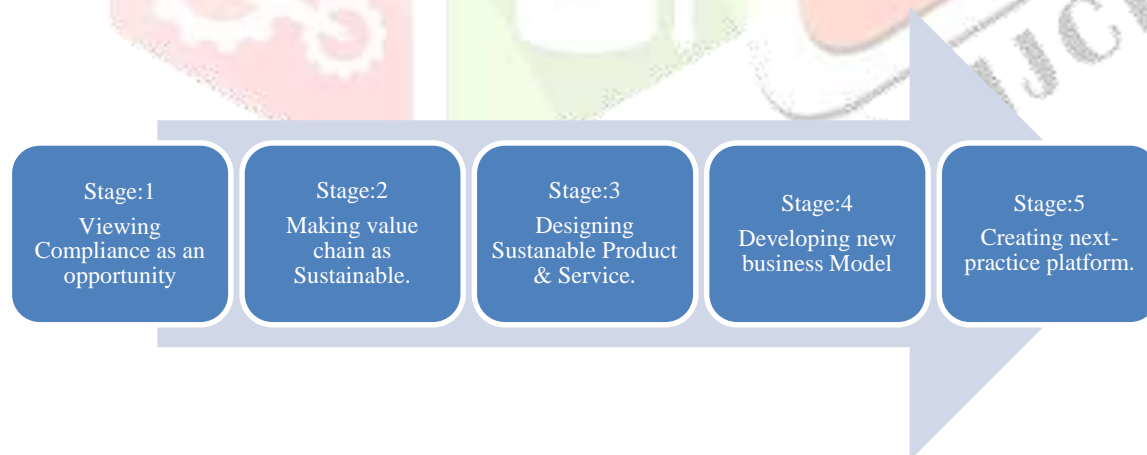
| Stage:1 Viewing Compliance as an opportunity | Stage:2 Making value chain as Sustainable. | Stage:3 Designing Sustainable Product & Service. | Stage:4 Developing new business Model | Stage:5 Creating next-practice platform. |

Diagram 5: Five Steps to Sustainability

Designing thinking and Balanced Scorecard:

Diagram 6: Balanced Scorecard.

The Balanced Scorecard (BSC) is a management review system for any organization. It's a way of looking and analyzing an organization that focuses on strategic goals. It also helps to choose the right things to measure so that organization can reach the goals and vision of any organization. If any organization want to be very perspective in Balanced Score Card analysis, designing thinking can surely take care of customer value proposition portion which in turn can take care of financial perspective of any organization.

Patent and its significance in design thinking:

The traditionally meager status of design patents is the reason why many designers are likely surprised by the prominence of design patents in Apple vs. Samsung. In all reality, practically everyone who has an opinion holds design patents in the lowest esteem of all the different forms of IP protection. Most people listing the different areas of intellectual property will rattle off copyright, trademark, and patent while actually only thinking of utility patents—the more esteemed form of patent protection that is geared toward what an invention is or how it functions.

Future Model:

The success of product, process or service outcome of design thinking will help the organization to achieve the vision. A SMART model of design thinking has five windows.

Sustainable: This window talk about a strategic perspective of design thinking which will give an organization long-term sustainable advantage as the output of the system has its newness in character. As this product or service can create a new market or can do a deeper penetration in the existing market. As the need and want of the customer are known here, chances of new product failure will be less and it will create differentiate and sustainable advantage in long perspective.

Measurable: This window talk about the financial prospects of the design thinking. It will help to calculate the financial prospects of the product or service. It will also help in to measure input, throughput, and output of the design thinking.
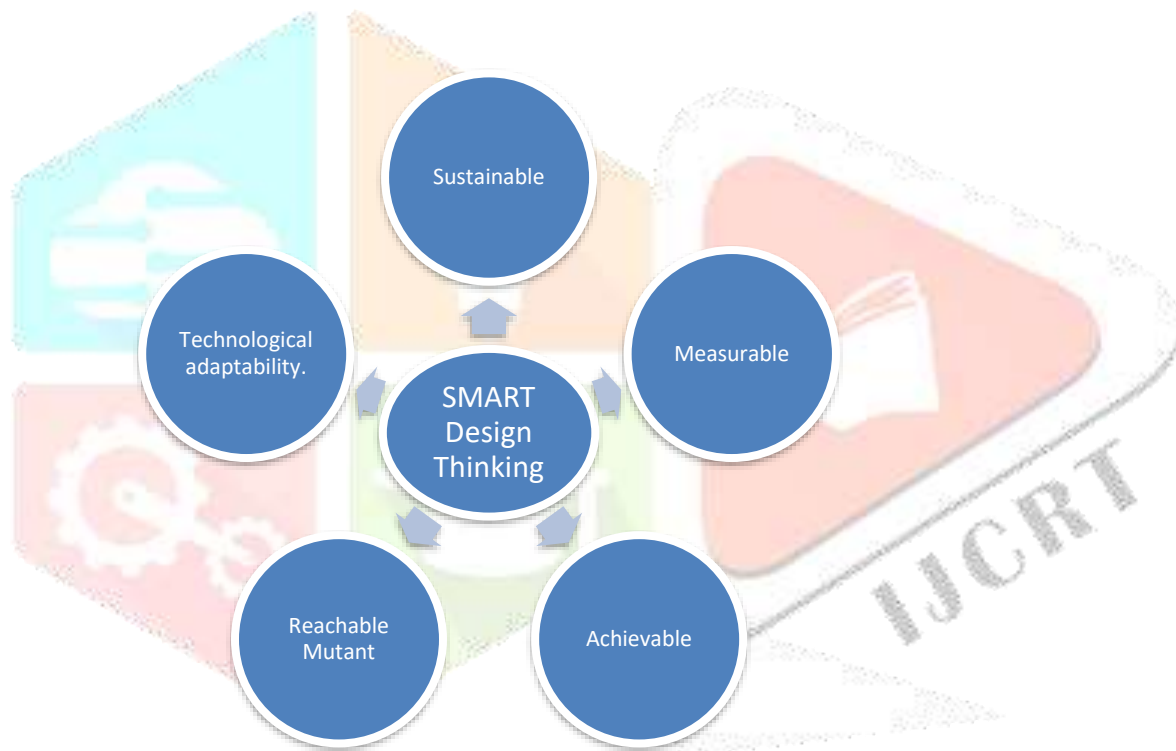

Diagram 7:   SMART Design Thinking Framework

Achievable: Many concepts may come through the designing thinking process, but the biggest question would be whether this product or service is feasible in nature or not. The design thinking process should provide an achievable output to the organization.

Reachable Mutant: This window talks about value addition prospective of the output (Product or Service). When the new product of the organization will launch in the marketplace, a competitor will try to copy it. At this point, the product has to work like a mutant object by some value addition to the product so that external competitor is unable to destroy the product but at the same time the mother product can destroy the competitor by directing the customer towards its benefits.

Technological Adaptability: This window will talk about the continuous improvement of the output. So that it will work like a reachable mutant, can create a sustainable advantage, it can measure the output and the product or service design can be easily achieved. This factor also can create fencing around the product or services.

Future research guidance:

Though the design thinking process and outcome is not the new concept to the academics fraternity of this world, it always gives a challenge to the designer, to come out with a winning combination of outcome, so that the final user will accept that wholeheartedly. If any organization succeeds than it will be jackpot otherwise organization will lose the game. By the analysis of the above discussion, it is very much clear that design thinking helps the organization in new product development, which could be winning step for the organization. It will also create some fencing to protect the product from the competitors. The above discussion will give future research guidance, how design thinking will be a competitive advantage to the organization. Research has to also find out how the concept of SMART design thinking will work at the organization level and how it will help the organization to save the resources and make them competitive.

Conclusion:

The present research adds to current knowledge concerning the theoretical foundation and antecedents of design thinking as a part of new product design. Every organization can think about the design thinking as a part of the successful journey but the challenges are the more inhuman domain. The organization has to create an innovative design thinking culture and mindset among the employee. The basic of the concept will come from empathizing of customer need & want and how to full fill that needs and want with suitable product or services with minimum resources utilization. Design thinking will also help an organization to come up with a very creative product which can be patented by the law. Then this product will give a competitive advantage to the organization for a long time, with the help of this innovative product organization can penetrate the market or can get skimming advantage. Though this concept is more commercial oriented organization also has to think from research window advantage perspective. If the organization is able to establish the concept of SMART design thinking in a strategic perspective, then the organization will get an advantage in a competitive environment of the industry.

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