FACILITATING COLLABORATION BETWEEN MBA STUDENTS AND BUSINESSES IN DESIGN THINKING PROJECTS

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ABSTRACT:

The thought processes and methods underlying design practice are being increasingly applied to the innovation process in business settings. Business schools also have taken steps to incorporate such practices in their curriculum. In our business school, we have used the design thinking approach in many of our classes for several years. In our MBA program, students use the design thinking framework in working with companies to develop new products and services. This paper describes how design thinking is incorporated in these projects, and outlines the key factors which enhance or constrain the project's level of success.

INTRODUCTION

Design and design thinking have gained increasing attention over the past decade. This attention reflects the enhanced role of designers in many firms, which has evolved from the tactical, downstream provision of aesthetic product add-ons, to a broader role of creating new ideas to meet customers' needs and desires (Brown 2008). "Design thinking" refers to the principles and methods that designers have acquired to support the process of innovation. As a way of approaching questions, design thinking involves gathering insights through observations of what people actually do and how they are feeling. These insights are integrated to better understand interdependent elements. This integration is followed by the iterative development of prototypes to allow experiential interaction in the development of a systemic solution (Brown 2009; Liedtka and Ogilvie, 2011; MacGregor 2010). While design thinking is often used in the development

and refinement of products, it can also be applied to transforming services, processes, and strategy (Brown 2008).

Design Thinking is a method of solving messy problems and is most valuable and powerful when applied to abstract, multifaceted issues. Today most companies use an analytical process to solve new problems. Combining design thinking with traditional analytical thinking will broaden and enrich the way problems are solved. Design thinking is about creating new value and new meaning that engages people to have a better understanding and have more interaction with one another in solving problems. (MacGregor 2010).

DESIGN THINKING IN BUSINESS SCHOOLS

Through the early 2000's design thinking practices were increasingly adopted in the business sector (Martin 2011; Brown 2009). Business interest in design thinking is driven by the importance of innovation as an essential ingredient for sustained success (Beckman and Barry 2007; Liedka and Ogilvie 2011). Business schools also have responded to the need to address innovation. Many countries such as Singapore, China, Korea and India are investing in education systems that emphasize leading through innovation by embedding innovative thinking throughout the curriculum (China Design 2007). Business, engineering and design schools around the U.S. are expanding their efforts to teach students how to innovate, often through multi-disciplinary classes that give students a full experience of the innovation process. (Hey, Van Pelt, Agogino, Beckman,2007).

The importance of innovation in the business curriculum has been recognized by the AACSB (Association to Advance Collegiate Schools of Business) International. As noted by the Chair of AACSB's innovation task force, Robert Sullivan (2011 p. 495):

With this very dynamic and ambiguous environment, good management requires more than a stagnant toolkit (often associated with a business school education). It involves a complex interplay of critical thinking, integrative thinking, boundary spanning, risk assessment, organizational culture, communication and much more.

We believe that incorporation of design thinking into the business curriculum can foster the abilities that Sullivan lists above. Design thinking also can complement the traditional analytic approach fostered in most business programs by enhancing observational abilities and the use of visual and spatial modes of communication. Further, incorporating design thinking into the business curriculum can generate understanding of design thinking among future business managers, without which the impact of design thinking interventions would be constrained.

We have used the design thinking approach in our business classes for several years. In the college of business and economics, design thinking has been included in courses ranging from marketing, leadership, and supply chain management, to sustainability projects in one of our economics classes. In our MBA program, students use the design thinking framework in working with companies to develop new products and services. A wide variety of companies have been involved in these projects, representing such industries as banking, manufacturing, insurance, and retail. This paper describes how design thinking is incorporated in these projects, and outlines the key factors which enhance or constrain the project's level of success.

SUPPORTING DESIGN THINKING IN BUSINESS PROJECTS

Before undertaking the project to develop a new product or service with a business firm, students are provided with some grounding in design thinking. This is addressed through assigned readings, which include Brown's (2008) work on design thinking, readings on innovation strategy (Kim and Mauborne, 2005), as well as readings dealing specific design thinking techniques developed by the design firm, IDEO and Stanford's design school (IDEO, 2003, Bootcamp Bootleg 2010). Readings are supplemented by lecture. Additional readings and support materials are provided during the project. After signing confidentiality agreements and gathering initial background information on the company that they are to work with, students meet with executives from the firm. During the project, the students and their business counterparts progress through the phases of the design thinking project. The first phase begins with problem finding, resulting in a problem brief. This is

followed by observation, visualization and sense making. At this point, students are developing character profiles of users as well as point-of-view statements that reflect user perspectives and needs. This is followed by ideation, prototyping and testing, and finally, the design of a business model to enact the innovation.

FACTORS THAT SUPPORT OR UNDERMINE PROJECT SUCCESS

Over the years, we have found that the level of success achieved by design thinking projects are shaped by a number of key factors. These key themes are presented below.

OBSERVATIONAL ACCESS

A key factor in the success of a creating a new product or service with design thinking relates to the observational access to users. Being able to gather sufficient observational and ethnographic research information is paramount to the design thinking process and success for a new product or service. This issue relates to the type of project most likely to benefit from MBA/business collaboration. Some companies are unwilling to grant access to users or potential users of their products, which undermines the utility of the design thinking process. On the other hand, companies and projects that facilitate interaction between students and users are ideal. For example, while working with a company that wanted to get into the aquaculture business, the observation that was chosen was to visit a few select massive fish farms. During the visit we observed that the readers used to collect data on the brood stock were inefficient for use on the smaller fish, along with being heavy and cumbersome to control. From this experience a new market was developed for lighter, less expensive equipment to use in the aqua culture market, by this company. Specifically, a new reader was developed and delivered, to the fish farms we visited, as a prototype to use in th fish industry.

Another consideration is how expense can constrain observations techniques or choices. During the design thinking process we like to observe the non-user and the extreme user in an industry. After deciding to make a visit to an extreme user in the fish industry, the concern was turned to cost for the

travel. The executives in the company felt the added cost was unnecessary, and thus voided this trip from the observation list of activities.

LEVEL OF EXECUTIVE INVOLVEMENT

The amount of time the executives dedicate to the student teams is associated with the success of the new product or service. Before the project begins there needs to be a discussion of dates and times of visits between these individuals. The more time spent together between the student and the executives, the richer the experience. Going too long between these meetings can cause frustration within the group members. During an eight week design thinking session, the executive are asked to visit every two weeks.

When choosing employees from the different companies to participate in developing a new product or service, the top company executives may not be the best individuals to be involved with the design thinking teams. A mid-level manager or employees seems to have more time to commit to student involvement in a design thinking project. These individuals also have more day-to-day involvement in the company's products and services and can facilitate observational and research access in the design thinking research process. These individuals also have a sense of excitement when contributing their knowledge and experience to the students.

STUDENT ACCESS TO EXECUTIVES AND BUSINESS PERSONNEL AND KNOWLEDGE

At the beginning of a project it is important to discuss student involvement with the executives who will be working on the project. Such as working out the guidelines for student visits to their company for observation, amount of background information to share with the students, and the amount of their time commitment, is essential to the success of the project.

A main deliverable for the executives or employees is to impart technological knowledge to the students. This product area may have technological information and challenges that are new to the students. Most likely it will take a couple of sessions to inform and educate the student in this area.

Another option is sending the students a company profile with information before the class begins.

The best way to communicate with the executive is also a necessary discussion. During the first meeting with the executive there needs to be a discussion on what is the best method of communication. Working with executives who may not have enough time to respond to e-mails or phone calls can be discouraging to the students. Also, discussion of a subject lines for e-mails is important as the executive may not respond to unidentified or unfamiliar names in their e-mail account.

ACCESS TO PRODUCT/COMPANY INFORMATION

One of the most important choices for the instructor is to choose a company that is willing and able to impart information to the students. At times there might be sensitive or confidential information attributed to this project, so we do ask the students to sign a confidentiality agreement. However, this may not be enough when working with banks or insurance companies who have individual privacy concerns. Should a constraint in confidentiality occur, a different company should be explored as an alternative for the project.

Opportunities to interview the company receptionists or entry level employees can be an avenue for a wealth of information. This should be an area to explore when setting up an appointment for a tour of the business.

TEAMS AND PERSONALITY

Design thinking involves a collaboration process, and increasingly design thinking is being recognized and taught as a team process with multiple socio-technological dimensions (Brown, 2008; Dym, Agogina, Eris, Frey, & Leifer, 2005). Further, the increasing complexity of products, services and experiences calls for increased interdisciplinary collaboration. Therefore, design thinking projects also lead to expectations for team members that may be more challenging than found in traditional team projects.

When choosing the composition of team members, many aspects need to be considered. Diversity is necessary to bring out the best ideas during the design thinking process. We have found student personalities also play an

essential role in the design thinking process. Setting up teams of students from a diverse background and different educational interest will facilitate the necessary generation for an abundance of creative ideas.

Certain executive personalities can crush the design thinking process. Should their personality be more of a linear, absolute, no-room-for-error personality we have found these personalities to be more difficult to enter into the arena of design thinking ambiguity, explorations, ideation, and delayed problem and solution.

CULTURE

Some cultures in businesses are more reserved, such as banks and insurance companies, and thus are less apt to embrace the design thinking process. These companies are driven by guidelines, state and federal regulations, and internal policies. Because of these constraints, some executive are not comfortable with the iterative and ambiguous design thinking process or creating a new disruptive technology. Design thinking projects are likely to entail an iterative, non-linear process involving inquiry, generation and evaluation of ideas. Delayed decision making is an essential component requiring large amounts of ethnographic research. Many executives are not comfortable with waiting for a solution to their problem and are persistent to move on to other pressing matters.

AMBIGUITY AND UNCERTAINTY

Traditional business school curricula strongly encourage analysis for a systematic breakdown of a problem, step in a step-by-step, layer-by-layer, fashion. Faithful appropriation of an analytic technique is often presumed to lead to success. Design thinking does not provide a similar crutch. Instead, it relies on open-minded observation to see patterns others have missed. It suggests that gaining experience from the customer's perspective will develop intuition that will lead to breakthrough insights and ideas.

From the beginning the students will feel a heightened level of ambiguity and uncertainty in the design thinking process. As they continue with their research and ideation process the level of frustration will continue to be high.

The seasoned design thinking instructor anticipates this occurrence and reassures the students that they will be able to create a new product or service. It is only during the prototyping phases that these levels of anxiety will decrease and the sense of excitement will increase.

CONFLICT

One of the first decisions when meeting with the executives is deciding on the project direction. At times the different executives will differ on the topic or problem for the design thinking project. Executives from different functional area may have a preference for defining the design thinking project toward their area of expertise. The decision may be made that there are really two design thinking projects and not one. Although, once the project has been defined the executives can learn from each other, leading to a greater common understanding and vision of their company.
Another unexpected benefit is the increase in information and communication shared between executives during their class visits. Recently, two executives from marketing and engineering were being asked questions by a team of students. After the engineer concluded with his answer, the marketing director exclaimed how happy she was to learn about this information! Interaction among executives can generate complimentary ideas in the design thinking process.

BENEFITS OF PROJECT PARTICIPATION

Design thinking projects can yield benefits to both students and companies. Many of the projects that we have been involved with have generated products that are now on the market or in the process of commercialization. For students, the design thinking project provides an opportunity for real-world experience. Many students enter the project with a learning background emphasizing step-by-step instruction and narrow concepts outlining only one correct solution. Design thinking offers numerous multidimensional solutions and provides greater opportunities to not only learn, but to find new opportunities to learn in different ways. Students have emerged with practical experience in working through the innovation process, experiencing the transition from initial confusion and frustration to the development of a tangible product or service.

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