Designing Innovation Diffusion
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Abstract

Innovation is a primary goal for many organizations today; executives understand how important innovation is to achieving sustainable strategic advantage in the 21st century. Yet, realizing innovative ideas eludes many of them, often through ineffective diffusion practices. Research indicates that most companies are able to actualize less than one in five promising ideas. This thesis analyzes the barriers and best practices of innovation diffusion in four categories: structure, environment, communication, and process. This thesis also analyzes the value created from design processes, and it explores how to transfer components of the design process to facilitate diffusion of innovation in organizations. This thesis proposes that a design approach offers holistic solutions to diffusion barriers and will prove more successful in realizing innovative ideas. Finally, this thesis proposes the incorporation of a design approach to create a seven-phase diffusion approach to facilitate the diffusion of innovation within an organization and to create a regenerative cycle to support innovation as core strategy.
Designing Innovation Diffusion

Innovation is critical for an organization’s future sustainability in the 21st century. Given the pressing needs of today’s global economy, organizations will be faced with the need to change internal processes, products and services. Issues such as population growth, climate change, resource scarcity, an impending water crisis, and the rapid rate of evolving technology require massive shifts in business operations and offerings. All of these issues require innovation.

A recent Accenture survey found that two-thirds of the CEO’s surveyed recognized innovation as one of the five most critical factors required to succeed and to sustain a competitive advantage (Kambil, 2002). However, despite claims that innovation is a key priority, diffusing it within an organization proves to be a difficult challenge for many. Most companies are able to actualize less than one in five promising ideas, and only one in eight executives feel strongly that their companies excel at implementing innovation (Kambil, 2002). Implementation of innovation can range from marketed commercial products and services to internal processes that bring greater value to the organization. However, before a new idea can be implemented, it must first be diffused within an organization.

Problem Statement

This thesis postulates that it is not an inability to generate ideas that typically prevents innovation, and therefore strategic advantage, but rather the inability to successfully diffuse new ideas throughout an organization.
Problem Validation

The diffusion of innovation presents a challenge: it often calls for reinventing strategies and processes, overcoming numerous complex organizational barriers, and creating new business models (Ehrlich, 2007). These obstacles require breakthrough solutions and new integrative approaches in order to increase the chances of successful diffusion, which ultimately facilitates value creation within an organization (Kao, 2007).

One of the realizations that have come to light during the recent economic instability is that the global economy has been operating with outdated economic and social models (Lockwood, 2009). “When pressed to articulate a company’s operations strategy, most executives will talk about efforts to reduce costs or improve quality, such as Total Quality Management or Six Sigma. These programs have excelled in increasing efficiency and profitability in a company, but have created a two-prong problem that is recently gaining attention” (Maulik, 2009). For one, a streamlined process will eventually reach a threshold beyond which it cannot become more efficient. Organizations are then forced to focus on creating revenue growth through the creation of new ideas (Maulik, 2009). Secondly, many of these perfectly efficient systems are not set up for real innovation, in that they are calibrated to deliver evolutionary improvements on the traditional task rather than incorporate a new task (Maulik, 2009).

Because innovation is heralded as a driver of value creation and differentiation for organizations, many companies develop innovation processes that focus overwhelmingly on idea generation, with very little consideration given to the steps needed to institute buy-in for that initiative (Kambil, 2002).
To better understand why some organizations excel while others fail, this study has identified four categories that can either inhibit or facilitate innovation diffusion within an organization. The categories are listed and defined as follows:

**Structure**

Structure is the way in which a company organizes itself and the form placement of key decision-makers.

**Process**

Processes are the methods by which an initiative makes its way through an organization, from initial development to actualization.

**Communication**

Communication is the way in which information is shared within an organization.

**Environment**

Environment refers to the physical space in which the organization operates.

**Thesis Statement**

This thesis is designed to test the hypothesis that an organization’s sustainable advantage is dependent upon employing a design approach to facilitate the diffusion of innovation.
Definition of Terms

In order to clearly understand the thesis proposed, there are several terms that warrant clarification.

- **Innovation**: the creation of a new idea that brings value to an intended audience
- **Diffusion of Innovation**: the acceptance of new ideas spread throughout an organization
- **Design Approach**: the application of the 4D design process (Define, Discover, Design, Deliver). It seeks relevant insights and incorporates them into the creative process of exploring, distilling, clarifying, refining, and simplifying in order to create relevant holistic solutions.

Methodology

In order to prove that a design approach facilitates the diffusion of innovation within organizations, it is important to clarify the two questions this research study intends to answer:

- What are barriers to the diffusion of innovation?
- What are best practices of organizations that use a design approach to successfully diffuse innovation?

Potential challenges to answering these questions are:

- Organizations may be hesitant to discuss barriers within their own organization.
• Organizations may not clearly understand the barriers within their organization.
• Organizations may be unwilling to allow research and analysis of internal processes.
• Organizational policies and internal processes may be proprietary.
• Organizations may be unwilling or unable to allocate time for interviews.
• Organizations may be unwilling to participate in a diffusion of innovation research study.

Research

Research for this study focused on both secondary and primary methods while targeting the insights of professionals within organizations in the industries of product and service innovation. This information and process is visualized through a graphic in Appendix A.

Secondary research

Secondary research was used as an information gathering process to collect data related to the diffusion of innovation in these areas: structure, environment, communication, process, and additional insights. These areas were targeted in secondary sources due to their relation to the role of design within organizations, availability of professional knowledge bases, and experiences related to the diffusion of innovation. Sources consisted of scholarly journals, professional trade magazines, books and authoritative articles. These sources were selected based on the author’s professional
experience, perspective, credibility, reputation, and the quality of the content and insights. The publications and articles specifically chosen focused on the topics of design management, design processes, business strategy, innovation within organizations, and innovation diffusion. A list of these sources can be found in the references.

Primary research

Primary research was conducted by means of ethnographic research, a method frequently used in the design approach for its ability “to understand a community, or a specific issue within it by gathering first-hand information from informants, mostly through interviews, observation and the collection of artifacts” (Oreglina, 2008). Ethnographic research is a qualitative research method, as opposed to the quantitative methods that are more common in many organizations. As Tom Kelley in the Art of Innovation states, “… customers aren’t statistics. In these days of click through demographics and detailed buying patterns, too many companies assume that the answers will be electronic, that everything worth knowing will be assigned scientifically determined percentages. But that assumes you know the right questions to ask. And it forgets that outrageous new products and ideas recognize that people are human” (Kelley, 2001). Just as design is about understanding needs and developing solutions to fulfill those needs, the diffusion of innovation is about understanding people and their ability within an organization to accept new ideas. Human-centered ethnographic research provides the most insight into an organization’s barriers and best practices for the diffusion of innovation.
The ethnographic research process started with the intent of doing in-person interviews and observations of the work environment. A target interview audience was defined as design managers within organizations who were able to diffuse innovation throughout their organization and consistently bring innovations to market. Interviewees were also initially targeted by their proximity to the researchers, so interviews could be conducted in person and in situ. A customized questionnaire was then created for these professionals, focused on their role within the organization, processes and barriers, and metrics and measures. The questionnaire guide is referenced in Appendix B.

This questionnaire was used to facilitate conversation about the diffusion of innovation within the interviewee’s respective organization or in an organization for which the interviewee consults. Solicitation letters were sent to 45 organizations, some of which were outside the prescribed travel distance in an effort to expand the knowledge base and prevent a regional bias to the information. The interviews were selected based on two categories: design firms and corporations. The design firms were chosen for their ability to consistently innovate, the variety of organizations with which they consult, and their consistent use of a design approach. The corporations chosen displayed not only an ability to consistently innovate, but also an ability to identify and overcome barriers to the diffusion of innovation and apply a design approach to overcome these barriers.

Nine design firms and four corporations accepted interviews to discuss the diffusion of innovation. Overall, the design firms were more willing to share their experiences and processes than corporations were. Corporations were found to be more protective of confidentiality in relation to their competitive advantage and/or required many channels of approval in order to grant interviews, which in turn prevented more
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managers from participating. Seven interviews were conducted in person, as initially planned, and the remaining six were conducted via telephone or Skype. Below is a list of all the design firms and corporations interviewed. Their names have been removed for purposes of confidentiality.

Design Firms

Company A: Product Development Firm – Interviewee: Creative Lead

Recognized for their strategy and brand development, as well as their ability to create a conceptual narrative and communicate it through product experiences, this leading product-development firm was chosen for its innovative approach to strategy and design and its experience-based communication. The firm’s strategy development begins simultaneously with design. By aligning their product goals from the outset, they are able to effectively create an emotional connection through communication; this, in turn, ensures that they are continually creating innovative solutions that connect with their users.

Company B: Product Development Firm – Interviewee: President

This small, innovative design consultancy specializes in product development, packaging and strategic business development. Their client base includes corporations with well-known global brands. They have championed the use of the design process to develop innovative solutions for their clients.

Company C: Product Development Firm – Interviewee: Design Manager

This firm, a large design consultancy with its headquarters on the West Coast, is known for its industrial design capabilities, having evolved beyond product design to
include interaction design, mechanical design, environmental design, research, and company strategy. Boasting 80 years of experience and numerous awards, the company has a unique perspective on today’s business landscape, as its ideas have infiltrated an array of different customers and markets.

Company D: Innovation Consulting Firm – Interviewee: Vice President of Innovation and Design

This is a global innovation and design consultancy specializing in brand experiences, design strategy, product, and social and organizational innovation. Their work focuses on commercial and industrial markets in consumer goods and electronics, transportation, telecommunications, health and medical services, as well as retail and hospitality. The interviewee professionally consults with organizations on how to become more innovative, from developing concepts to realization.

Company E: Product Development Firm – Interviewee: Industrial Designer

This design consultancy has expertise in product development, interactive experiences, and brand communication. Over 90% of their designs have been successfully brought to market. The firm has remained in business for over 25 years by incorporating strategic approaches to innovative products and brand development.

Company F: Architecture Firm – Interviewee: Partner

The firm specializes in southeast regional architecture focusing on large corporate headquarters, housing complexes and master-planned communities. The company consists solely of architects with some support personnel. Working in an open-concept environment, they nurture design and innovation through open communication and weekly learning seminars.
Company G: Digital Interaction Development – Interviewee: Design Chief

This digital interaction design team is working as a subset of a major global architecture firm. This interviewee was chosen for his past experiences in the creation of two successful product development firms, his revered design industry experience, and his transition to digital interaction. These experiences led to the creation of creative environments with established, clear processes.

Company H: Global Architecture and Infrastructure Firm – Interviewee: Director of Global Foresight and Innovation

This firm is one of the world’s largest independent design, planning, engineering, consultant and technical specialist firms. They offer professional services in complex infrastructure development and service a broad range of markets, from commercial property, government, resources and waste, science and industry, to energy. The firm has offices worldwide and is responsible for many notable projects around the world. In 2003, the firm established its Foresight and Innovation Division to encourage companies to think about the global drivers of change and how these could influence their strategies. The division focuses on “thought-leadership” and encourages collaborative problem solving.

Company I: Innovation Development Firm – Interviewee: Director

This innovation development firm services their clients in the areas of product innovation, service innovation, and long-term forecasting. Their specialty is providing innovation seminars for their clients. The firm is recognized for its ability to facilitate the creation of innovation. Based in London, this firm is 250 strong and has locations around the world.
Corporations

Company J: Bicycle Manufacturer – Interviewee: Design Director

This company, one of the world’s leading bicycle manufacturers, is recognized for its dedication to quality, its innovative development, and its focus on being a good corporate citizen. Chosen for its continuous innovative initiatives and its new design studio, the organization is focused on a holistic design approach, reflected in its strong use of design processes, multi-disciplinary collaboration, and the creation of a new environment to facilitate future initiatives.

Company K: Global Restaurant Chain – Interviewee: Director of International Development

The Director of International Development and Real Estate was interviewed for his efforts in transitioning his company to incorporate global sustainability as part of their vision. His design management experience allowed him to execute sustainable ideas in an industry typically unaccustomed to such practices. His approach to design and business strategy enabled him to carry his vision through to corporate executives, and subsequently across a broad network of retail locations.

Company L: Consumer Health Manufacturer – Interviewee: Design Manager

A design manager at a global household product organization was interviewed for the company’s success in innovation and their strategic use of design. They recently opened a new design studio to better holistically bridge innovation, design, and business strategy. Aligning consumer needs and corporate objectives, this organization has been a leader in their industry for over a century.
Company M: Internet Search Organization – Interviewee: Sales Manager

A manager at a global search engine organization was interviewed for the company’s unique approach to encourage innovation amongst all its employees. This organization has been a leader in developing internal tools to foster innovation in the daily work environment. Embracing this mindset from the top down has created an environment where new products frequently reach market launch, and a perception among many consumers that this company is one of the most innovative organizations today.

Information Analysis

The analysis for this study began with a review of the thirteen interviews that were recorded and then transcribed to text. Pictures and observational notes were also recorded for those companies that were interviewed in person.

Analysis of the research presented another opportunity to apply a design approach to assist in bringing order and clarity to the information. The research transcripts were disseminated with a visual color-coded process for clarity and categorization of the information. By prioritizing the information and then creating a visual representation of that hierarchy, the information could then be analyzed for consistencies, alignment, and categorization. The analysis method was designed to allow the team to see the big picture and to assist them in decision-making (Wroblewski & Staff, 2009).

This visualization began with the printing and reading of all transcripts, followed by a review of the information, identifying areas of importance in the following categories: Communication (green), Environment (purple), Process (pink), Structure
(blue), Key Insights (orange), Metrics (yellow), and Barriers to Innovation Diffusion (black). This process, completed by each member of the team, created a four-layer review of the information. This review led to the clarification of subcategories for each category. For example, within the Communications category, collaboration was added as a relevant subcategory. Each color-coded subcategory was then re-compiled into one list of relevant quotes and additional information. The category list of information was then analyzed to pull out the key take-aways from each section. This key take-away list was analyzed for consistencies, relevancy to the category, and clarity of the idea in relation to the diffusion of innovation. Consistencies were noted for frequency of occurrence; irrelevant information was crossed out; and an approach to simplify and clarify was repeated to consolidate a clear set of sub categories. This information and process is visualized through a graphic in Appendix C.

Results

Identification of Barriers

The ethnographic research, in conjunction with secondary research, allowed the team to identify and categorize the diffusion barriers into the following categories: structure, environment, communication, process, and other.

Barriers: Structure

There are multiple components within structure that play a large role in inhibiting the diffusion process. They are as follows:
First and foremost, it is critical to have leadership’s acceptance of the change required for innovation: the company values need to incorporate innovation into their organizational fabric. Many organizations are eager to claim that innovation is one of their top strategic priorities, but very few actually know what it means for the organization as a whole and the structural modifications it may require. The reorganization and reallocation of resources can seem disruptive to existing business processes and departmental functions. The failure to appropriately allocate resources, such as time, budget, staff, etc., to the process can obstruct the diffusion of an idea before it has time to fully mature (Wycoff, 2004). Leadership’s inability to fully embrace and understand the change needed and empower those who can champion the initiative is a key deterrent to innovation diffusion (Ditkoff, 2009). The absence of a clear strategy for innovation is an overarching management barrier (Kambil, 2002).

Another of the largest structural diffusion barriers is acquiring and retaining talent who can facilitate and add value to the innovation process. “One of the biggest hurdles is the lack of a sufficient base of appropriately skilled people” (Kambil, 2002). In some cases, it is not necessarily the lack of talent, but management’s inability to recognize existing talent within the organization. Or, assuming the organization recognizes those talented professionals, the lack of training and innovation coaching that assists in inter-departmental collaboration and the creation of innovative behaviors (Wycoff, 2004).
Multiple interviewees confirmed that the siloed nature of organizations serves as a barrier to cross-functional teams. Silos, or departmental confines, exist within an organization to provide structure and efficiency; however, although organizations need structure to determine key points in the decision-making process, it is a consistent challenge to balance the need for structure with the ability to be flexible (Company E, 2010).

**Barriers: Environment**

An organization’s environment can play a significant role in either facilitating or inhibiting the diffusion of innovation. The environment can contain both physical and ambient barriers; research indicated the following as potential barriers:

- Physical obstructions
- No initiative “home base” space for ideation and follow-up
- Lack of wall space to display ideas
- Lighting and ambiance

Multiple sources described physical partitions, or “cube-farms” as one of the largest inhibitors of innovation diffusion. Historically, cubicles have been an effective way to segment departmental divisions and enable individual tasks. However, innovation diffusion requires a great deal of collaboration, and therefore physical office barriers can pose constraints to shared learning. Additionally, organizations that do not have dedicated “innovation stations” or a home-base for idea creation and development are challenged by not having a space where all team members can convene or use independently for follow-up during the process. Organizations lacking this type of space
are more likely to have documents, tools, models, and other pertinent related information distributed in various areas, thereby losing the potential to share information with a wider number of stakeholders or involved parties. Additionally, work areas lacking pin-up wall space also lose an opportunity to share initiatives with a wider audience, as current progress, new findings, and inspiring insights are not easily visible and accessible.

**Barriers: Communication**

Mismanaged communication can pose a massive barrier within the diffusion process. Communication’s role and connectivity to structure and process is complex, but several recurring themes were discovered during barrier identification. They are as follows:

- Failure to establish clear objectives
- Varying individual perception of task
- Employee buy-in
- Differences in vocabulary between design and management sectors
- Lack of diversity within teams

Clarity in direction and purpose is critical in sustaining and diffusing innovative initiatives. Clarity becomes clouded when involved stakeholders do not clearly understand what the fundamental innovation is, how the process works, what to expect, who is involved or who the primary decision-makers are. Although these are process related elements, they need to be communicated and shared to support a widely understood, system-wide process (Wycoff, 2004). The organization’s communication
strategy is paramount to inform and shepherd the process for sustaining diffusion of innovation.

The communication strategy is critical to developing buy-in from ownership, business unit managers, and employees companywide (Wycoff, 2009). Buy-in is the cornerstone to the success of innovation diffusion and, when executed poorly, is one of the leading causes of the initiative not proceeding. Individuals need to understand how to be part of the effort (Ditkoff, 2009). One interviewee said, “Yeah, it’s funny. I wouldn’t have put it in the terms of ‘selling it to people on the inside,’ but yeah, you do. You have to get the team on-board and aligned with the direction you think it should go in. So there’s that barrier of getting the team there” (Company E, 2010).

Other communication barriers to diffusion are those between creative and other managerial departments. Often, process-oriented vocabulary used in these departments varies, as does the vocabulary for the tools and systems. Furthermore, although organizational diversity may exist between departments, new idea formulation is most effective when coupled with a diverse set of perspectives applied in a team setting. Ironically, this very necessary diversity can also pose barriers to communication.

*Barriers: Process*

Process, which in this sense is the way innovation makes its way through an organization, was identified as one of the largest barriers to innovation diffusion. As a part of process, the following components were identified as the most frequent occurrences of diffusion obstruction:

- Time
• Lack of creative exploration
• Unfamiliar design process
• Focus Group based research
• Differences in perception during research interpretation
• Suspect qualitative data

Time is always a constraint in the completion of any task. A scarce resource itself, time can also be misused due to inadequacies in available resources. It has become one of the most prized commodities within an organization. When management establishes unrealistic time frames for the innovative process, and innovation milestones are not met at a rate deemed efficient, the process is often halted prematurely (Ditkoff, 2009). Wall Street’s demands for current quarter growth performance only compound the problem by encouraging management to generate rapid returns. An idea that does not show promise quickly is often assumed to be a loser (Nagtegaal, S. & Wittens, S., 2008). As an unfortunate side effect, it is often the very best ideas that are thrown out because those that generate substantial value and meaningful differentiation for the company are the ones that can be the hardest to figure out and execute (Nagtegaal, S. & Wittens, S., 2008). These factors often force companies to cut losses and focus on ideas that show more promise: usually ideas that are easy, quick to execute and of low risk, but ultimately less valuable (Nagtegaal, S. & Wittens, S., 2008).

Another major barrier in process occurs during research. Focus groups in particular have long been used to confirm and validate the potential success of a new idea, usually concerning new products or services, and to provide the “proof” that many executives need in order to proceed with an initiative. While focus groups can be useful,
depending on content researched, when it comes to innovation or a radically new idea, they have the potential to crush it before it makes it through the process. One interviewee explained, “You get group dynamics taking place; you get interpretations of whoever is leading the focus group. I am highly, highly, highly suspicious of focus groups. …There are just so many variables coming into that process that aren’t actually about how the people that use it really feel…I think it’s very hard to get useful information out of it” (Company E, 2010). In addition, an entirely new, or radically innovative idea, historically does not test well with focus groups, whereas testing for incremental improvements allows people to give more reliable feedback because they are viewing it in a framework which they already understand and in which they are comfortable.

Another barrier within process is the lack of trust or understanding of how to use qualitative data. But qualitative research is one of the cornerstones of the design approach. Key insights from observation and interviews with users are more valuable for creative exploration, and uncovering user needs is often best determined through ethnographic research. It is ethnographic research that opens more opportunities for gaining the insights that drive real value. However, qualitative information is more subject to personal interpretation and therefore is more suspect than quantitative, hard data. An interviewee from Company E (2010) confirmed, “I think that the biggest challenge is getting them [executives] to trust qualitative data.”

While insufficient time and misunderstanding the creative process disrupt the diffusion process, it is the differences between the design approach and the more traditional management processes focused on efficiency that create another disconnect. Although deadlines and milestones are an important factor in shaping a designer’s
approach, the “grey” space between those deadlines is not always as calculated and methodical as, for example, a manufacturing process (Company J, 2010). The time for creative exploration and experimentation is not understood and is difficult to account for, and when time is a precious resource, accounting for every second often becomes a priority for organizations focused on efficiency and process improvement. The tools that designers use to gain insights are suspect, misunderstood, or misinterpreted. For example, one interviewee remarked that magazine and web browsing hardly looks like work to someone who is unfamiliar with a design approach. But in reality it could spark new inspirations, aid in the gathering of knowledge, or allow for a brief but necessary change of thought that cognitive processes may need.

Other Barriers

The research also indicated a number of other barriers that did not necessarily fit exclusively within the previous four categories: structure, process, communication, and environment. As they were too broad to be confined to a single category, and are perhaps relevant to all, listing them together in a separate category seemed more appropriate. The additional barriers are as follows:

- Budget constraints and ROI
- Personal agendas and motivation
- Inability to quickly adapt and mobilize
- Aversion to risk
- Misalignment of initiatives to business goals and mission
- Unclear path to decision-makers
• Inability to suspend disbelief of opportunity
• Lack of innovation metrics
• Lack of an idea management system

Financial considerations are always a consistent constraint in business practices and are obviously not exclusive to innovation. However, it is the justification of the expense and often the fuzzy or non-existent Return on Investment (ROI) projection, which serves as a barrier to funding approval. For instance, how is one to approximate the ROI of an innovation before the ideation process has even begun? One interviewee from Company K (2010) stated that “everything has to be justified in terms of dollar value” as it is the only way he is able to gain approval to proceed with a new idea. This premise is understandable, because businesses exist to make a profit. Therein lays the challenge and common barrier: how do you justify a budget to explore an idea when the potential profitability is unclear? Even if there is a solid ROI projection, if the time to actualize the return is too long-term, again the focus on short-term earnings poses another barrier to diffusion (Kambil, 2002). Research indicated this factor often resulted in a very small budget, if any at all, for the exploration of new innovative ideas, which, while it lowers risk, may also decrease the chances for the diffusion of break-through innovation.

Innovation can also be broken into two levels: incremental and “game-changing.” Incremental innovation is a more prevalent approach to new product development and services and is often a very necessary component of an organization’s strategy. It usually requires less risk and limited change, and therefore is easier to diffuse. Game-changing innovation, on the other hand, has the potential to launch an organization into an industry leading position and capture a significant portion of the market share. Given the
challenges facing global economies today, the world is demanding solutions that not only
generate value but also create impact. While game-changing innovation creates the
greatest impact, one of the barriers of traditional management practices is that
organizations look to past successes and answers to translate to the future; this default
approach can lead to incremental ideas that are easily copied year over year (Brown,
2009). One interviewee reflected on this premise, referring to traditional organizations as
a whole, “They just have a different process that isn’t set up for innovation; they’ve got a
process that is set up for evolution, very safe evolution” (Company E, 2010).

Two other barriers were determined: not having an idea management system, and
not aligning the innovation with company strategy (Wycoff, 2004). The first of these two
barriers relates to the orchestration and placement of decision-makers throughout the
organization. As decision-makers are the gatekeepers to the organization, poor systems of
idea management will inevitably halt the diffusion of innovation. The second barrier is
actually a positive and necessary one for the organization since some ideas should not
diffuse if they are not aligned with the company purpose. Resources are already scarce,
so expending energy on bad ideas for longer than necessary is ultimately harmful to the
good ideas that require staff, resources, and time.

Another overarching barrier to diffusion relates to the lack of metrics for
innovation and accountability of results (Ditkoff, 2009). One interviewee from Company
D (2010) stated that “the largest inhibitors of innovation are the measurement systems
that are in place in organizations.” This is a common problem in organizations because
new ideas can vary in impact and scale, so creating a universal set of metrics to apply to
all innovation diffusion is difficult. Because of this, a qualitative approach to metrics as opposed to a quantitative analysis might prove to be more effective.

Identification of Best Practices

Best Practices are the most successful use of the design approach (define, discover, design, and deliver) in overcoming barriers to the diffusion of innovation. The design approach manifests itself through these four previously identified categories: structure, environment, communication, and process.

Best Practices: Structure

Management.

The research identified two important categories in the structure of organizations: the management structure and the organizational structure. Analysis of the structure of organizations in both the primary and secondary research revealed that without management’s support of innovation, there is very little hope for innovative ideas and practices to flourish or diffuse throughout an organization. Upper management must be responsible for the generation of new ideas and innovation at all levels of the organization. If not, Bill Buxton warns the consequences will be twofold. “From the perspective of management, the take-away lesson is that you must foster an overall culture of creativity within your organization—one that not only has good ideas, but also understands them, is receptive to them, and knows what to do with them. Otherwise, you will lose both the benefit of the ideas that you paid for as well as your most creative people” (Buxton, 2007, p.223).
Much discussion has taken place around the role of leadership in an organization and how important it is to have a leader who supports innovation. If an organization is going to be innovative, and utilize and diffuse good ideas, it is the role of the leader to lead the way. All thirteen interviewees were either the leaders or reported to leaders who supported innovation. According to author Emmanuel Agbor, “Organizational creativity also depends on how leaders encourage and manage diversity in the organization, as well as develop an effective leadership structure that sustains the innovation process” (Agbor, 2008, pg. 39).

Research has identified the need for an innovation champion (or champions) within the organization. Because this champion is responsible for making innovation a priority for the organization, he/she needs to have decision-making capabilities and influence. Again, research has shown that the closer to the top of the organization’s management structure a champion is, the more effective an advocate for innovation he/she will be and the more instrumental at including innovation in the business conversation. One interviewee from Company K (2010) admits to being the “champion” who utilizes innovative sustainable practices within his organization and is supported by the founder. “The good thing with the organization [is that] our founder is very much into these concepts. He really understands sustainability and he really understands organic. And it has trickled down in the organization. Everyone is to work with these concepts.” (Company K, 2010).
Organizational.

Other best practices are reflected in organizational structure. Five key components were identified. They are as follows:

- Flatness vs. hierarchy
- Transparency
- Nurturing
- Team based / community
- Knowledge base / talented people

Multiple interviewees perceived their organizational structure as flat. According to one interview the “flatness” of the organization improves the buy-in process required for innovation diffusion. Many corporate structures are vertical or hierarchical, enabling decisions to be implemented very quickly. This does not, however, mean that everyone agrees with those decisions. Although it may take more time in a flat structure to come to a consensus, once everyone is on board, diffusion can occur (Company C, 2010).

Transparency in an organization is important on many levels. “For effective innovation, transparency ensures the development priorities and efforts can be aligned with strategic priorities. It provides for the exchange of information between functions that is so critical to cross-functional processes like innovation. It is also the means by which the performance of the organization is made visible to senior management, enabling a ‘closing of the loop’ between objectives and performance” (Bordia, Kronenberg & Neely, 2005). One of the interviewees for this study reiterated this observation, noting that when the organization’s structure is transparent, everyone benefits. Communication needs to be shared in a way that maintains a sense of
transparency amongst the organization. This, in turn, creates incredible loyalty (Company K, 2010).

The interviewee of Company I (2010) used the term “green housing” to refer to the nurturing of ideas while they are small in order to see which ones would grow and produce value. But people need nurturing and tending as well. “Leaders can successfully encourage organizational creativity and innovation by designing the organization to foster an environment that is conducive for creativity to flourish. Leaders can do this by building friendly and inclusive working conditions for the members of the organization. When the social structure of the organization helps workers feel secure and accepted, it brings out their creativity” (Agbor, 2008, pg. 42). By making their staff feel comfortable and the surroundings inviting, the interviewee for Company I (2010) believes the organization will enable the employee to produce better ideas.

The very nature of design, creativity, and innovation, requires that designers be given the opportunity to interact with others. As one interviewee stated, “It’s more of a community than a bunch of employees” (Company G, 2010). Team-based and community-based organizational structures were prevalent in the research. “Teamwork induces innovation by bringing together different points of view. When diverse people work together to approach a problem and generate ideas, you will find solutions that are unique and creative, yet balanced and viable” (Catlin, n.d., pg.3).

“First thing you need to do is get the right people” (Company E, 2010). This need for talented staff reinforces the pivotal role of the Design Manager. Team work and an organization that breeds and breathes innovation keep talented people motivated and
engaged. Retaining that talent is essential to generating and diffusing the ideas and solutions needed in today’s innovative organization.

Best Practices: Environment

Physical space plays a crucial role in the success of innovation diffusion. “Creating a great work environment may be nearly as important a hiring the right people” (Kelley, 2001). The design of the physical space not only affects the way people interact, but can also inspire people in a way that builds passion and facilitates diffusion. This component of the environment is referred to in this study as “emotional space.”

Emotional space.

Four key aspects of emotional space were identified in the research:

- Exploration
- Engagement
- Inspiration
- Experience

Seven of the thirteen interviews were conducted on-site within the work environment of the interviewees. Observations of each of the spaces revealed commonalities. The spaces were open, not traditional high-walled cubicles, and included smaller defined areas for brainstorming and collaboration. Decorated with visually stimulating imagery, many of the spaces also had large windows with open views to bring in natural light. This natural light was, for many of the interviewees, valued not just for its physical benefits, but also for fostering creative exploration. Natural light creates
openness in both the space itself and the people within it. Collaboration and information sharing ensue; people become engaged and inspired; creative thinking flows; and the greatest opportunities for diffusion and innovation happen.

While light is one way to create an experience, the building itself can create a space conducive to the diffusion of innovation through layout design, high ceilings, colors, and materials. Such spaces encourage creativity, engage people, and inspire them with new ideas.

*Physical space.*

The physical space is an integral part of creating innovation diffusion. When asked about the importance of physical space, one respondent excitedly commented, “Absolutely! Absolutely! Absolutely! Physical space is so important” (Company D, 2010). Another respondent said, “The environment is really, really important to us” (Company I, 2010). Each space visited and observed showed individuality through space divisions, colors, organization, and the creative use of barriers and structure. During tours of the spaces the following were observed and discussed as best practices of the organizations to facilitate the diffusion of innovation.

- Neighborhoods
- Use of wall space
- Integration
- Creative space
- Individual vs. collaborative space

The first use of the word neighborhoods to describe a creative workspace came
from Tom Kelley in his book *The Art of Innovation* “We believe in the importance of neighborhoods and community in fostering innovation” (Kelley, 2001, p. 123). These spaces, he believed, should draw people to them and encourage interaction.

Research also indicated that firms with success at innovation diffusion had dedicated areas to exchange ideas and information. One interviewee talked about how their organization uses communal spaces as a way to communicate to the staff. Walls within the kitchen and other areas were used to post positive feedback messages and ideas for all staff to see. The use of wall space facilitates visual communication and a sense of community. “We have lots of places to hang things up. Designers need to talk to each other. We don’t just bury ourselves in computer screens. There is a significant amount of community that I think designers need … so we don’t have walls. That being said you can’t have a gigantic studio or designers start to freak out. So we kinda use those nine little meeting rooms as a way to create little neighborhoods” (Company J, 2010).

“You know a lot of it is really simple stuff; you need a room where you can put all the materials, all the research materials, all of your brainstorming up on the walls so everyone can see it at once. You can’t collaborate if you are working on a PowerPoint and you are emailing it to someone else. You want to have those types of working spaces in semi-public working spaces” (Company D, 2010). The use of tack-up wall space opens up the creative process to the entire organization and encourages passersby and “drop-ins” to participate in the conversations (Company D, 2010).

Physical spaces can bring people together in order to facilitate the diffusion of innovation. According to Buxton, “no matter how well one does design, no matter how brilliant and creative one person or sector of the organization, without appropriate
integration among various components, … all that the best design process and five dollars will buy is coffee at Starbucks” (Buxton, 2007, pp. 92-93). Organizations that use a design approach recognize that space is essential to creativity. The Director at Company I (2010), stated, “… so what we try to do is … create a state you want people to be in and have the right kind of interactions. For example, we very firmly believe that using space to drive lots of physical interactions [gets] people sparking off each other and constantly getting that stimulus.”

Best Practices: Communication

Communication in the diffusion of innovation reveals itself in four areas. These are collaboration, and emotional, visual and management communication.

Collaboration.

Communication in the collaborative sense looks at the organization on a flat level where the lines of communication are more integrated than traditional organizational structures. Collaboration in an organization allows for better multi-disciplinary communication. These are the attributes and components that enhance collaboration:

- Multi-disciplinary teams
- Perspectives
- Diversity
- Team motivation/support
- Knowledge exchange

Collaborative communication as described by the interviewees involved bringing
different perspectives and talent into the discussion. This could include lunches where all parts of the office would gather to share information, or where industry leaders could come in to share expertise. It facilitates an open forum for knowledge exchange and integration within the organization, whereby different groups and teams can work with each other. As one interviewee said, “…diverse perspectives and backgrounds working together, that’s where innovative insights come from” (Company D, 2010) that can facilitate diffusion. Different perspectives, diversity and multi-disciplinary backgrounds enable new and engaging exchanges of information and inspiration. A Design Manager from Company C (2009) said, “We typically sort of hunt in packs and find that ‘two heads are better than one.’ We try to use that and try to … make sure we have enough people with varied backgrounds in the conversation to be able to extract all the information we’re going to need to be able to craft a good response.” An organization that is able to facilitate their teams in sharing knowledge with each other will ultimately create solid teams that motivate each other. This in turn reduces communication barriers within the team, making projects visible to the entire organization by creating a sense of transparency because everyone begins to connect to the project as they learn about it, a vested interest forms.

*Emotional communication.*

Emotional communication is the connection one makes with an audience in order to receive buy-in and foster a vested interest in seeing the project come to fruition. The attributes or effects of emotional communication identified in the primary research are the following:
Designing Innovation Diffusion

- Creating relevance through strategic positioning
- Persuasion
- Connection
- Knowing your audience
- Creating a sense of urgency
- Enacting story-telling

When communicating with either internal or external parties, the most valuable advantage is getting buy-in from the beginning. Or, as one interviewee stated, “Yes, it’s all about making the new idea, presenting it in ways that are relevant to them. … It’s all about positioning” (Company D, 2010). In order to effectively connect and persuade an audience, it is important to understand that audience, to discover what matters most to them and why. Storytelling, when done well, can elicit greater buy-in from an audience because it taps into an emotional center, which can instill passion and relevance, both extremely important in ensuring the longevity of an initiative.

Visual communication.

Visual communication is a powerful source of communication. Nearly 100 percent of people can understand information that is presented visually; although very few are able to communicate information visually (Wroblewski & Staff, 2009). Visual communication can effectively assist with clearly articulating value and strategy of the information being shared. Successful tools for visual communication are the following:

- Visualized data
- Brainstorming tools (sketching, Legos®, Post-Its®)
Physical models

In an organizational setting, tools such as timelines or related info-graphic organizational processes can illustrate accountability and provide constraints that are measurable (Lockwood, 2009, p.43). If leadership were to apply a design approach to the communication of key concepts of initiatives, it is highly probable that, not only would they have a higher success rate in the information retained by the audience, but they would also have more solidarity of buy-in and initiative appeal. Communicating thoughts and ideas through models and prototyping further helps gain buy-in from the organization because it better creates an opportunity for engagement.

Management communications.

Management communication discusses the avenues of communication throughout the organization. Developing clear values, strategies, objectives and channels will assist in creating open communication. The best practices for management communications identified to facilitate the diffusion of innovation are the following:

- Strategic communication
- Internal communication channels
- Identification of clear objectives
- Values

Creating clear and open lines of communication within an organization allows everyone’s ideas to be heard, no matter where the idea is coming from. One interviewee said that one of the keys to the removal of barriers is the identification of clear objectives. “Knowing what …you [are] going to do, [and] how …you [are] going to get there,
[facilitates] …determining the most effective move and then removing anything that stands in the way of going in that direction” (Company C, 2010). If the people of the organization feel that they can openly communicate with managers and executives, ideas will surface and be shared rather than hidden. It is the lack of organizational barriers that allows employees to openly offer new and innovative ideas.

**Best Practices - Process**

The diffusion of innovation is dependent upon a design approach, and there is nothing more central to this approach than a design process adaptable to the needs of different projects. One interviewee summed it up this way: “the clearest definition of a goal or an objective is if you know how you are going to get there. The process is a roadmap” (Company J, 2010). Just as a road map guides people to a destination every step of the way, so too can the processes that facilitate the diffusion of innovation. Processes for the diffusion of innovation have been refined to a series of sub-categories consisting of Management, and the 4D design process: Define, Discover, Design, and Deliver. These five sub-categories have subsequently been further divided into relevant buckets that, when synthesized, facilitate the diffusion of innovation.

**Management responsibilities.**

While the role of management has been clarified within the context of organizational structure, the role of management in facilitating processes for diffusion within organizations also needs to be clarified in order for true diffusion of innovation to
be realized. Managers have found that the following process features facilitate the diffusion of innovation within their organizations.

- Road map creation
- Milestone management
- Facilitating engagement
- Companywide gathering/sharing
- Inspiring creative thought
- Adaptability
- Learning from failure
- Resource allocation

Management has a variety of roles in the facilitation of the diffusion of innovation. The beginning of the process should be framed in a way that defines clear milestones and can be aligned with a timeline. Great importance needs to be put on facilitating the engagement of the team because as one interviewee stated, “Our best stuff has come out when the people assigned are engaged” (Company J, 2010). This sense of engagement can be promoted through company-wide gathering and sharing of new exciting information, and allows the organization to stay current on innovations in different industries. This facilitates communication and open sharing of knowledge.

Another way to facilitate both engagement and diffusion of innovation is by encouraging creativity and design through creative exploration and allowing ambiguity during conceptual development. In a sense, “Design is a thermostat for innovation, a process that modulates, controls and encourages creativity in the company” (Borja de Mozota, 2003,
p. 19). Creative exploration also allows for deeper insights to identify the best solutions to problems that may arise during diffusion.

In order for new ideas to make it to market, organizations and management need to be willing to accept failure and communicate to the teams that failure presents an opportunity for learning lessons that can prevent future failures. As long as there are valuable takeaways from a failed experiment, then the learning was valuable to the organization. That very experience could spark the next innovation if this mindset diffuses through the organization.

The final role of management in facilitating the process of innovation diffusion is team selection and the ability to allocate the correct resources to projects. As an interviewee states, “each project assignment comes with a different set of constraints or opportunities that allows us to go and pick the best talent or the right talent for the project” (Company F, 2009). This is extremely important: having the right resources and disciplines on the right project to facilitate diffusion through engagement, to encourage creativity, and to integrate decision making processes. These define the best practices of management in facilitating the diffusion of innovation.

*Define phase.*

The define phase set the stage for the rest of the 4D model of design: define, discover, design, and deliver. The define phase has been broken down into four parts to facilitate the diffusion of innovation.

- Design brief
- Alignment: define objectives, scope of work, and deliverables
• Inscribe goals

• Parameters: schedule, budget, etc.

The 4D design process starts with defining the project through the creation of a design brief, an instrumental tool used to stimulate creativity, critical thinking, and problem solving. The brief considers the following areas: content, challenges, objectives, resources, completion, and evaluation. The diffusion of innovation can be facilitated using the processes outlined throughout the 4D’s. The brief provides the direction to move forward to what the interviewees defined as the alignment step. Alignment allows the opportunity to coordinate the organizations thinking around the effort, to understand the business goals, to appreciate why this effort is being undertaken, to anticipate what the business expects to get from the effort, and to appreciate how this is aligned with the broader business strategy (Company D, 2010).

The final section of importance identified by interviewees was clarification of the parameters of the project. While this would seem to overlap with the design brief, in many cases it was important enough for interviewees to discuss it as separate from the brief, since it can be more targeted toward the logistics of the project. One interviewee defined it as framing the program. “Typically what we’ll do is work collectively to frame the program, scope the deliverables, the schedule and the budget because the offering in our studio is sort of aiming at an equal split between design disciplines” (Company C, 2010). This also presents the opportunity to closely look at challenges related to time allocation for projects and time to market for innovations. Or, in the words of one interviewee, “We are looking for areas where we can reduce the time needed. It’s less linear and more of a network process: everything is happening at the same time”
Designing Innovation Diffusion

These are the practices of organizations that have successfully diffused innovation through the define phase of their innovation development.

Discover phase.

The discover phase is the second layer of the 4D design process. This phase is designed to facilitate understanding the problems through research, analyzing the data available for insights, and then defining a strategy for the diffusion of innovation. The discover phase’s best practices were distilled to the parts outlined below:

- Ethnographic research
- Assessment: diagnostic and challenge
- Analysis
- Refining to decisive insights
- Strategy

The discover phase is all about information gathering and, just as this thesis chose to use the ethnographic research method, so too do the majority of the interviewees who did research. One interviewee confirmed that an ethnographic research method leads to greater insights (Company I, 2010). Another interviewee described it as a more involved process of understanding “in a very qualitative way, through interviews, shadowing people, through surveys we custom design, through facilitated information gathering sessions with groups of people from the organization, through poring through their formal descriptions of their processes, and looking at the measures they use and also trying to understand the informal processes that people use in the organization to get ideas through, for instance” (Company D, 2010).
One interviewee described assessment as the phase following the define phase. Assessment uses two approaches that can be adapted to the needs of the organization. One is a diagnostic, which uses a framework to assess the innovativeness of an organization; the second is a project challenge, where work is done on a real project in order to analyze first-hand how the diffusion barriers within the organization are handled (Company D, 2010). After this comes “an analysis of all of the results we got from the assessment phase … [to] identify areas of opportunities for enhancing their innovation capability. And that could be everything from dealing with leadership issues to organizational structure to performance measures to process modification, to embedding new processes in there, individual skill levels, communication tools. There’s a myriad of things that could need to be addressed in order to enhance an organization’s ability to innovate” (Company D, 2010). It’s important to find a way to identify and catalogue the insights for those interpreting the data in the next phase. A design strategy document is then formulated to create perspectives and clear interpretations to guide the next phase of design for the diffusion of innovation.

*Design phase.*

The design phase is where teams get to be creative and explore ideas through a variety of means in order to visualize, incubate, experience, and refine possible solutions to the diffusion of innovation. The design phase is the third phase of the 4D process and is a phase of conceptualization and design refinement that will be followed by the deliver phase. The following parts were identified as key to the facilitation of the diffusion of innovation:
• Brainstorming
• Sketching
• Critiques
• Incubation time for ideas: staring out the window
• Rapid prototype
• Experiment with experience
• Storytelling

The design phase brings some new assets to the table for the diffusion of innovation, starting with conceptualization or brainstorming of ideas. As an interviewee points out, brainstorming isn’t just an industrial design process or phase. “I’ve worked really hard to get the corporate culture to call it the concept phase. Because we need everybody else there with us” (Company J, 2010). Brainstorming is a collaborative process that is facilitated through spontaneous idea generation and sharing. Brainstorming is best facilitated through a process in the design realm called sketching because, as one interviewee stated, “it might be the only medium that allows you to be creative and communicative at the same time with a lot of people” (Company A, 2010). Bill Buxton (2007, p. 115) goes further to say “Sketching is fundamental to the cognitive process of design, and it is manifest through a kind of conversation between the designers and the sketches.” Sketching is of value to brainstorming and conceptualization because it is loose and rough at times. “Ambiguity creates the holes. It is what enables a sketch to be interpreted in different ways, even by the person who created it” (Buxton, 2007, p. 115). Following any brainstorming or other collaborative phases, it is important to do a critique, another common design process. A design critique is a powerful tool used by
Designers to encourage and facilitate collective discussion, debate, criticism and the exploration of ideas (Buxton, 2007, p. 151). The concept would be new to business, and accepting the criticism could be challenging at times, but it is all part of the process and inspires new and more refined ideas. “From ‘the glass is half full’ perspective, the thing to remember here is that one of the most positive forms of criticism is a better idea, and frequently, that better idea would never have come about were it not for the idea it replaces” (Buxton, 2007, p. 151).

Following brainstorming and critiques, ideas need time to marinate; people need time to think. They need, “for lack of a better word, staring out the window time or staring at a blank stack of paper, or at a mouse cursor moving around on the screen” (Company J, 2010). As ideas begin to refine themselves in the cognitive process, it is of value to continue the sketching process but in a more physical form, something people can get their hands on. Prototyping provides a means to sketch in ways that are less intimidating for people who are not designers, so using facilitators like Legos® or clay or anything that is physical really helps (Company E, 2010). Physical prototyping is really fundamental to figuring out how things are going to actually work (Company E, 2010). Mock-ups, prototypes, and hands-on interaction are key to development. Letting users experience something physical, and seemingly real, is crucial to realizing an idea. Expanding on that idea through storytelling and building a narrative around it will convey it in a way that quickly connects with the intended audience. Design “can visually represent metrics, illuminate relationships, considerations, decisions and implications at a strategic level—and tell stories at a glance at an executive level. Telling the right story means using the tenets of design and the conciseness we strive for, and the clarity we
seek … wrapping data into presentations about where products should go, why and how products are interrelated, and what the situation is in the business” (Wroblewski & Staff, 2009). Following the design phase is a refinement and decision-making process of selecting a direction, as discussed in the Management Responsibilities section. Design facilitates the diffusion of innovation with the first three phases, but everything culminates in the final deliver phase.

_Deliver phase._

The final phase of the 4D design process is the deliver phase, where the follow through and deployment of solutions take place. The processes identified in this phase as important to the facilitation of diffusion are:

- Deployment
- Relevance/Positioning

In order to facilitate the diffusion of innovation, it is important to follow through with initiatives by getting buy-in at all levels of the organization. This happens through what one of the interviewees called the deployment phase. The challenge is getting those in the organization to embrace innovative ideas. One interviewee described deployment as “all about making that new idea; presenting it in ways that are relevant to organizations. ... It’s a lot about positioning. And it’s a lot about meeting them where they are” (Company D, 2010). Deployment is all about connecting with the audience to facilitate the delivery of diffusion of innovation within organizations.
Design and Application

The benefit of the design approach manifests in a four-phase process of defining objectives, discovering insights, designing solutions, and delivering those solutions. This creates a relevant holistic approach to the diffusion of innovation. Diffusion of innovation has been defined as the acceptance of new ideas spread throughout an organization. What this definition doesn’t include is that it is people’s acceptance of new ideas spread throughout an organization. The value of applying a design approach to any problem is that at its core it is a user-centered process focused on understanding the needs of people. This approach served as a catalyst in gaining an understanding of the deeper need for people in an organization to feel involved and engaged through the process of diffusing innovation. The design approach facilitated the understanding of the challenges and opportunities for improving the diffusion of innovation in the following ways:

- Creating objectives that leave room for exploration
- Recognizing that quantitative data doesn’t provide insights into the differences in people and how to make new ideas relevant to them
- Recognizing that always looking back for statistical proof can be limiting to innovative ideas and creative exploration of new solutions for diffusion
- Visually distilling ideas for clarity and understanding
- Facilitating communication of visually distilled information in a narrative way that connects with people
- Bringing refined ideas to life in a usable way by creating an experience that engages people in order to open lines of communication
• Recognizing the importance of the quality of interaction, and understanding that interactions can be designed in a way that connect with people on an emotional level

• Understanding that people want to feel valued, and that information is communicated to them in a way that values their contribution to the organization

• Getting people involved in innovation to emotionally engage them in the process of diffusion

While the benefits of the design approach are wide-reaching, it is the ability to take people’s insights and then interpret them in a way that fosters the creation of solutions that really sets it apart.

The team researched barriers and best practices in order to understand why people and organizations are challenged by the diffusion of innovation. With this information in hand, the team launched into an extensive, collaborative ideation and brainstorming process. The goal was to define the needs of organizations trying to diffuse innovation. The design approach was key, both in facilitating the process and in achieving the goal. By employing a design approach, the team was able to gain new insights into the challenges preventing organizations from continuously diffusing innovation, and the organizational structures that need to be built to overcome those challenges. What resulted was the Seven-Phase Diffusion Approach. Each of the seven phases uses the design approach to facilitate diffusion at all levels of the organization; this in turn fosters creativity and innovation. As this process encourages engagement, participants quickly
become aware of the relevance of innovation not only to themselves, but also to the future sustainability of their organizations.

Seven-Phase Diffusion Approach

*Foundation – Innovation Advocate*

The Innovation Advocate is identified as the foundation of the Seven-Phase Approach to the diffusion of innovation. For the purposes of this study, an “advocate” is defined as a person or people who foster and facilitate the creation and acceptance of innovation throughout an organization. This advocate understands the value of innovation and the importance of its diffusion throughout the organization.

The Innovation Advocate serves as a design leader within the organization, supporting and shepherding the formation of a creative community to facilitate the generation of new ideas. The role of this advocate is to engage management to join him/her in building a structure that supports the diffusion of innovation. With this in place, the advocate then serves as evangelist for the creative development of ideas within the structure. Ultimately, the Innovation Advocate facilitates the diffusion approach through all seven phases, thereby enabling the organization to better realize its strategic advantage.

*Phase 1 – Innovation Adopted as Core Value*

In order to sustain the diffusion process, it is paramount that the organization adopts innovation as a core value. This action begins to move “innovation” from a talking
point to a value set for which the organization is willing to make operational investments for long-term growth.

One way in which the adoption reveals itself is through an organization’s efforts to transform its physical environment beforehand, to facilitate the subsequent steps of the diffusion process. This might include reconfiguring office floor plans to integrate departments for multi-disciplinary team development; creating individual spaces or rooms to serve as home base for ideas during development; investing in technology to enable visual communication; or purchasing additional materials for prototyping to facilitate the visualization and understanding of an idea. Valuing innovation requires that the organization understand the relationship of a design approach not only to developing innovative ideas, but also to the diffusion process.

**Phase 2 – Communication Strategy**

Once an organization adopts innovation as a core value, it must then communicate this to the rest of the organization. Employees need to be informed of leadership’s innovation objectives and the company-wide innovation initiatives put in place to help realize new ideas. If the organization truly values innovation, it will want to collect good ideas from all levels of the company. The communication strategy will, in effect, convey to employees that the organization not only values their ideas, but has a method by which to collect them and potentially transform them into reality. This encourages organization-wide participation while reassuring employees that they are a valued asset.

In order to create the emotional connection required for such participation, the communication strategy should employ a design approach to facilitate engagement with
the message. This may be done through the use of localized communication; a variety of media including video, music, graphic interpretation of information; or other unique forms of delivery. The message must be authentic, reflective of the existing organizational values, empathetic to the audience’s point of view, and convincing in depicting why diffusion is important to employees and critical to the success of the organization.

*Phase 3 - System for Considering New Ideas*

Given the often complex layers of organizational bureaucracy, employees need a direct pathway for ideas to be ushered; a pathway that leads to an innovation advocacy team prior to filtration. Such a system reinforces the notion that insightful ideas can be found throughout the organization; empowers employees by offering them an outlet to share innovative ideas; broadcasts to all that the organization is serious about innovation; and facilitates the removal of barriers that might otherwise have blocked an idea before it could reach the decision makers in leadership.

*Phase 4 - Filtration*

This phase relates to the strategic alignment of the initiative to the company mission. This is a critical step in the diffusion process as it precludes wasting valuable resources exploring ideas that don’t support the company’s vision and mission. By providing focus for the diffusion process, the filtration phase better ensures that those ideas that move forward are more likely to be realized. Much like the critique in a design
process, the ideas are measured against how well they meet organizational objectives, and how they fare in an evaluation against strategy.

Phase 5 – Buy-In

The Buy-In phase is similar to the communication strategy but is more micro-focused at an organizational level. Where the filtration phase aligns ideas with the company mission, this phase facilitates buy-in from key decision makers and others within the organization who must be on board to actualize the idea. Establishing relevance for the audience is critical in this phase, as the advocacy team needs to create evangelists for the innovation who have a vested interest in seeing this idea come to fruition. By incorporating a design approach, the communication to achieve buy-in is structured on understanding the needs and position of the audience. Techniques used in a typical design process, such as ethnographic and observational research, better develop insights into user needs, and an understanding of the intended audience’s motivational drivers. This allows for the creation of communications that engage the intended audience toward innovation initiatives.

Phase 6 – Resource Allocation

Once the key decision-makers are on board, they are able to move into the Resource Allocation phase in order to build multi-disciplinary teams for implementation. This process seeks to find the best talent to actualize the innovation, and allocate time according to project schedule, budget and resources. Creative brainstorming in this phase may remove barriers to resource identification by uncovering assets not previously
considered, such as strategic partnerships, outsourcing opportunities, new vendor relationships, or materials within the organization that are currently deemed to be waste, but could be repurposed. A team-based approach to resource identification and allocation will bear greater results, as diversity in perspective is valuable in garnering new insights. Resource Allocation marks the end of the diffusion phase as the idea has successfully spread throughout the organization and is now ready for design and implementation.

**Phase 7 – Reflection and Regeneration**

The Reflection and Regeneration phase is an important part of the diffusion process since it allows for the opportunity to learn from process successes and identifies areas for improvement. These reflections could be compiled in an interactive design library or “database” to facilitate the exchange of knowledge between members within the organization. This database could store an archive of ideas brainstormed or prototyped prior to filtration by the innovation advocacy team; acknowledge people instrumental in the process; house inspiration and related resources for ideas explored; or serve as a venue for interaction and participation among members of the organization.

Depending on how the system is structured and the information stored, it may allow for analysis of the information in order to develop a system of metrics or measures for innovation initiatives. It could be helpful for organizations to visually see if the diffusion process they are following is working for them, and this system could provide that kind of understanding. Overall, the Reflection and Regeneration phase enables a holistic approach to the diffusion process: it supports innovation as a core value and feeds back into the system to fuel inspiration for new ideas, furthers participation and buy-in
from employees within the organization, allows for adaptation of the process as needed, and facilitates the mobilization of the organization through an efficient means of communicating valuable information quickly, which allows for the continuous cyclical nature of the Seven-Phase Diffusion Approach.
Conclusion

The Seven Phase Diffusion Approach is unique in its ability to synthesize characteristics of the design process to better understand the organizational needs for innovation diffusion. It bridges an empathetic approach with a diffusion strategy to facilitate an organization’s ability to realize valuable new ideas. This thesis defines the design approach as the application of the 4D design process (Define, Discover, Design, Deliver), which seeks to incorporate relevant insights into the creative process of exploring, distilling, clarifying, refining, and simplifying in order to create relevant holistic solutions. The design approach brings a holistic solution to the diffusion of innovation by creating an emotional connection and experience with participants in the diffusion process through visual communication techniques, teamwork and collaboration, and by creating a message of relevance based on a greater understanding of employee needs.

The Seven-Phase Diffusion Approach is a regenerative holistic solution to facilitate innovation diffusion within organizations. Its cyclical nature allows the phases to adapt given the needs of the organization, and it builds upon organizational experience with the diffusion approach. If an organization is to achieve or maintain a strategic sustainable advantage, innovation will prove to be a critical component of its success. As such, the diffusion of innovation will play a pivotal role in the organization’s ability to realize new ideas that meet the challenges of the 21st century.
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Appendix A: Research Process

[Diagram showing the research process with stages such as published media, questionnaire, solicitation letters, scheduling, interviews, transcriptions, notes + quotes, and distill info.]
Appendix B: Questionnaire

Role as a Design Manager

Organizational Structure
- What is the size of your organization?
- How long have you been with the organization?
- What is your current title?
- What does your job entail?
- How did you get here? Where did you start?
- Can you tell me a little about your organizational chart? Does it shift; how rigid is it?
- Is there any reorganizing to make things more efficient, or to facilitate process?
- Could you tell me a little about the leadership structure? Who guides your work? What is there role?
- How do you know who is accountable for what?
- Does the decision making power shift often? What purpose could this serve?
- Who do you think is most influential in directing design initiatives? How do they relate to the innovation process?
- Does your organization have a Design Manager?
- Could you tell me a little about their role in the organization?
- What do “you” think the role of a design manager is or should be?

Strategy
- What role does strategy play in your organization?
- What is the strategy? Is it used to maintain strategic sustainable advantage?
- Who guides the strategy? Is this created based on a model?
- How is it communicated to the organization?
- How does management facilitate buy-in to this strategy?
- Do you feel the organization is successful in its employee engagement of this strategy? Why?

Environment
- How are individuals situated in the office? (collaborative environment or offices or cubicles?)
- Why is the environment organized this way?
  - Is the environment adaptable?
- Is this environment any different from department to department?
- Does the environment facilitate a process and how is it used? Does the environment add value?
- What role do you think an environment should play?
- What is your perspective on multi-disciplinary creative collaborative environments?
- How does organizational culture affect the environment? Or is it the other way around?

Communication
- What do you find the most effective ways to communicate internally? Casual conversations, mtgs, software?
- With whom do you communicate (departmental) in a process flow?
- How often do inter-disciplinary teams work together? When is it effective, when do you do it? Who initiates it?
- How do you communicate the value of design to other constituents?
- How are these communications altered from project to project? Could you give examples… Corp business specific

Design
- What role does design play in your organizational culture?
- How often does the organization look to design in order to innovate?
Innovation development
- Is idea generation/innovation part of typical practice in your role?
- Do you believe in cultivating innovation? How is this initiated?
- What sort of value is placed on innovation?
- Is there an incentive or reward for innovative ideas? What about exploration and failure?
- Do you feel you can go to your direct report with new ideas? Why or why not?
- Could you tell me about a failed experience?
- Who is the innovation champion?
- What role does the environment play in the success of innovation diffusion within the organization?

Processes and Barriers

Processes
- Does your organization have a methodology it follows? Could you tell me about it?
- Is your process individual? Do you have an inspiration, ideation, and implementation phase?
- How do design managers facilitate the process from ideation to implementation?
- How is time managed on a project to project basis?
- In terms of process flow, where are the key points of the decision-making process?
- Are there key points that can block an initiative? Where is they and what is the reason?
- Who determines the value of the project, if it goes forth or not? Who assesses the risk?
- Are there divisions that you think should be included in processes that are not currently?
- How do you know who is accountable for what?

Barriers
- What type of resistance is faced with innovative initiatives? What are the barriers?
- At what level within the organization are these barriers usually identified?
- How are these barriers challenged? What tools might be used?
- How has your organization overcome some of these barriers? Could you give an example?

Metrics and Measures

Measure of value
- How do you weigh risk vs. opportunity?
- What role does market research play in measuring opportunity?
- How are development results usually presented?
- What metrics are presented to get buy-in early? What about during implementation?
- Are metrics used as a means to champion ideas? What type of metrics might you use?
- Do you see metrics as a facilitator or barrier to innovation? Could you please elaborate...

Sustainability of initiatives
- What is your role following the implementation? How are initiatives sustained?
- How is project lifecycle considered in the process?

Measure of success
- How do you manage time and profitability?
- How do you measure sustainability of the effort (environmental, social, and economic)? Does this have an effect on the development of innovation?
- How do you measure if a process is effective?
- What are considered successes in your organization?
- How are these successes measured within your organization?
Appendix C: Research Analysis Process

EXAMPLE OF DISTILLATION PROCESS

Insights highlighted in transcripts
It's all about semantics. You have to keep everyone on the same page all the time. Yeah, it's all about making that new idea, presenting it in ways that are relevant to them. Right? In ways that are going to help them as individuals or groups, help them succeed in whatever it is that they want to succeed at. It's a lot about positioning. And it's a lot about meeting them where they are. So we don't come in and say, 'hey we are the innovation experts, and here's what you are gonna do.' Right? If you do this you'll be successful.' It's more about collaboratively educating them I guess. Yes, I do design thinking workshops for clients, but for me it's less about the label and more about the thinking approach or the mind-set. You know you can call it innovative thinking, you can call it design thinking. I don't really care what you call it but being empathetic with the people that you are trying to sell to or serve, the idea of taking a different kind of perspective when looking at the problem, the idea of being okay with ambiguity, and being ok with taking risk and trying things and learning from failure is what it's about. We typically sort of hunt in packs and find that 'two heads are better than one', we try to use that and try to understand the requirements of a project, and make sure we have enough people with varied background in the conversation to be able to extract all the information we're going to need, to be able to craft a good response. We try to base it on getting a good emotional connection with our audience and then establishing that because we can speak with some conviction and point to examples that we can see either in the marketplace or past product successes and deconstruct those, we can show that these emotional connections we're emphasizing can make a difference and it's still an emotional argument.

Relevant information simplified to key terms
Teamwork • Collaboration • Diversity • Multi-Disciplinary • Persuasion • Present with relevancy • Working with ambiguity • Team motivation/support • Segmentation • Emotional Connection • Audience • Knowledge exchange • Variety of Internal Communication Channels • Communities of practice • Identification of clear objectives • Support – Buy-in • Prototype – Hands on communication • Sketching • Visual • Environment used to facilitate communication • Everyone is welcome • Continuous sharing – education • Comfortable to advocate for projects • Management communication – Consistent meeting bi-monthly, etc...

Information categorized into sub-categories + simplified

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