INTERJECTING DESIGN INTO AN EXISTING BUSINESS CULTURE
TO ENABLE INNOVATION

By

Submitted to the graduate degree program in Architecture, Design and Planning and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Master of Arts.

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Date Defended: 11/15/2012

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certifies that this is the approved version of the following thesis:

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Chairperson Michael Eckersley

Date approved: 11/15/12

Abstract:

Design for many years has been considered an aesthetic tradecraft. However design has, more recently, come to be regarded as a strategic business asset offering a new way to solve problems and innovate. The rapidity of change demands that businesses must seek new ways to systematically create value as a means to retain competitive advantage. Recent technological advances offer a means of greater social connectivity. Brands can take advantage of this connectivity, and businesses can use design to more validly connect with the marketplace.

How does a company interject design into an existing business culture to enable innovation? This thesis is a case study of a Kansas-based international animal health equipment manufacturer and its efforts to introduce a program of design as a means to cultivate new ideas through design thinking and improve its existing business and innovation culture. The following report documents this effort and its various productive outcomes.

Acknowledgements:

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Introduction:

In recent years design has evolved from an artifact centric discipline to a strategic business asset. Select designers have become valued assets to business, offering holistic perspectives, complex problem solving, pattern awareness and strong communication skills. Business has had to adapt to fast changing market technological, political, economic, and social environmental conditions. There is pressure on businesses to achieve more with fewer resources while also creating sustainable competitive advantage.

To study how design can make a difference in an existing business culture I will develop and implement a program of design within my current company Schroer Manufacturing, an 85-year established international animal health equipment manufacturer. I am the Marketing and Brand Manager, and am responsible for 5 brands within the company family. As upper management, I am in a position to propose and implement new initiatives that will grow and sustain the business into the future.

Design is an asset that can leverage our core competencies for greater innovation, and provide a substantial advantage over time. For example evoking a holistic mindset throughout the company in which each competency has a clear interpretation of the company's strategy and their role in achieving the goals. This is beneficial for a vice president of sales and a production manager alike. Having an understanding of department processes will create empathy for other areas of the business that are not each owns responsibility. Thus promoting cross-silo interaction and ultimately a horizontal business model. Decisions made with a holistic mindset impact a company's ability to innovate at a faster rate.

Innovation is very much a buzzword and does not carry the same meaning as it once did. Joseph Schumpeter, the first person to speak of innovation defines innovation as "something that does (invention), not something that is" Over seventy years later, Noah Brier, cofounder of Percolate a branding company, defines innovation in 2012 as it relates to Schumpeter's definition, "Innovation is part of a process that involves creating something new (invention), figuring out how to commercialize it (innovation) and then actually getting to adopt it (marketing)."[2]

The central meaning of innovation relates to renewal or improvement, with novelty being a consequence of this improvement. For an improvement to take place it is necessary for people to change the way they make decisions, or make choices outside of their norm. To enable innovation we must seek creative resolutions utilizing creativity, ambidextrous thinking, teamwork, end-user focus and curiosity.

Literature Review:

Customer Experience:

The community we now live in is an ever-social one. Technological access is abundant and information is shared while it is happening rather than after an event. Customers (users) are demanding of brands to be more credible, authentic and honest in their business practices and messaging. Social media have evolved to give customers greater control over brands. A recent example of Bank of America charging debit card fees speaks to this. Within days social media had provided an outlet for customers to express their distain, and inevitably Bank of America cancelled the fee policy. [10]

In the book, *The Experience Economy*, Pine and Gilmore discuss the progression of the economy in regards to commoditization, goods, services and experiences and its relation to customers. "…Experiences represent an exciting but previously unarticulated *genre of economic output*. Decoupling experiences from services in accounting for what businesses create opens up possibilities for extraordinary economic expansion – just as recognizing services as a distinct and legitimate offering led to a vibrant economic foundation in the face of a declining industrial base."[8]

Pine and Gilmore were correct to forecast these customer experiences to be invaluable as now brands that focus on those experiences are propelled ahead of their competition. "The experiences we have affect who we are, what we can accomplish, and where we are going, and we will increasingly ask companies to stage experiences to change us."[8] For a customer to do business with a brand in today's economy the brand should offer a unique value, an experience worth sharing. For a business to fully understand and capitalize on these opportunities it is important for them to understand the customer journey.

Customer journey mapping is a method designers use to capture the journey of the customer's interaction with the brand through many touchpoints. Often it begins with the first engagement with a customer, maybe a tradeshow, buying the product or service, using it, sharing about the experience with others (in person or online), and then finishing the journey by upgrading, replacing, or choosing a competitor.[9] Businesses who use this methodology to educate themselves and then create action plans based on the findings position themselves for continued innovation. They are able to market to their customers on a personal level and reinvent the experience for the customer each time. Leaving the customer desiring more experiences and in turn generating brand loyalty.

As mentioned in the video *Design the new Business,* the new return on investment is brand loyalty not money. Generating an environment where customers can engage with the brand and the brand utilizes design and business to leverage what is learned in these experiences is where the return lies.[7] The ability to adapt with the rapid evolving world by doing something with the observational research the brand gathers through these experiences is invaluable. Design offers a tool kit to manage this complexity and interpret the observations. Design is no longer solely

artifact it is also nonmaterial. Select designers have the ability to see patterns and draw correlations among customers and a brand. Their disposition allows for change and inheritably they seek for solutions beyond the norm.

Business Model:

Roger Martin, the author of *The Opposable Mind*, provides a solid example of dancing through complexity within a business culture "…specialization allows us to cope with what might be overwhelming complexity...The business world has proceeded down a similar path of specialization, with equally unsatisfactory results. Business' dominant mode of specialization is the functional area – finance, marketing, production, sales, human resources, and the rest of the organizational chart. Each functional area has its own training, its own insiders' language, and its own culture."[5] Business people are analytical and are trained to make decisions. However, select designers bring a balance of analytical thinking and creativity. It is this balancing act between the two abilities where the value is found. Design can lead a culture to cultivate innovation by identifying patterns within the company that offer opportunities for growth. Sometimes these problems have yet to be framed.

To offer great customer experiences and be profitable a company must systematically create, analyze and synthesize repeatability throughout the process of generating new business propositions. "…R&D 'throws over the wall' to manufacturing, which in turn throws it over the wall to marketing, and then to sales and so on."[5] Interjecting design into this mix allows for strategic alignment company-wide thus promoting cross-silo interaction and provides new methods for complex problem solving.

Integrative Thinking and Design Thinking:

Integrative thinking is a method of problem solving that constructively takes opposing ideas and rather than choosing between them, a superior idea is generated by creative resolution. This philosophy lays the groundwork for a horizontal business model. Each department within a company is working together to align their efforts with the company strategy. This directly relates to faster time to market and greater diversification of products and services in comparison to competitors. "At the core of every integrative thinker's stance is a predisposition to look at models together, not separately, in search for useful answers."[5]

Integrative thinking and design thinking are tightly connected. While integrative thinking requires a skillset that allows one to work through two opposing ideas simultaneously, design thinking is the application of integrative thinking. Design thinking utilizes inspiration, ideation and implementation for creative resolution. "…Resolving conflict between reliability and validity, between exploitation and exploration, and between analytical thinking and intuitive thinking. Both ways [integrative thinking and design thinking] require a balance of mastery and originality."[5]

Some believe the design thinking concept allows anyone to be a designer. Martin even alludes to the possibility. However, design is more complex. It is more than creativity. When we are considering the many orders of design as defined by Julian Jenkins in the article *Creating the Right Environment for Design* the third- and fourth-order are comprised of systems design and cultural environment[4] design thinking can be applied to these orders of design because these orders are nontangible. The first- and second-orders are the design of languages and symbols[4] and the design of tangible objects. It is contested that the design thinking concept is not suited for these orders as they focus on the aesthetic and artifact arena.

Design's Relation to Quality:

From simply being considered the department that 'makes things pretty', to interjecting itself into organizational processes and systems. Championing a design-oriented cultural shift within a business is a big task. It challenges obsolete assumptions of design and its uses. Marty Neumeier provides his insights of *The Designful Company*, "Dr. Deming, the mid-century business guru who inspired Six Sigma, had some far reaching ideas beyond quality control. His trademark 1982 System of Profound Knowledge was an attempt to get managers to think outside the system they work. He proposed a list of "deadly diseases". The sure cure for Deming's diseases was design. Design drives innovation, innovation powers brand, brand builds loyalty, and loyalty sustains profits."[6] Design thinking is focused on the added experiential value provided to the customer, as well as the competitive differentiation and monetization afforded to the business.

Many businesses are struggling with applying new and existing methods of problem solving for the competitive landscape. Economic instability around the world calls for new ways to address big challenges. The Deming Cycle (plan-do-check-act or PDCA)[1] is a common quality method used in existing business cultures and shares common ground with design thinking. The PDCA method seeks areas of opportunity for improvement within a business' existing processes. The main difference between the two is that design thinking's strategies are based on ethnographic methods as opposed to the data gathering typical of other problem-solving methods. Traditional problem-solving techniques are based on quantitative data collection versus qualitative data. Design thinking also takes on a holistic approach rather than a specific process or problem. The qualitative approach allows the business to focus on the customer experience. As the marketplace evolves, the needs of the customer evolve, and thus the business model must evolve.

Observation is the most utilized design method when studying the customer journey and experience. *Universal Methods of Design* defines observation as, "a fundamental research skill requiring attentive looking and systematic recording of phenomena–including people, artifacts, environments, events, behaviors and interactions. Ethnographic methods are included in a semi-structured observation. Typically these include guided questions, photography and video footage. This observation is systematic and is generally synthesized for guiding inspiration, however, rigorous forms of qualitative analysis such as content analysis may be performed to uncover themes or patterns."[2] This method provides a strong base for ideation by creating an opportunity to distill the problem. Another method of design is brainstorming. Brainstorming can include role-playing, graphic organizers and affinity diagramming. Brainstorming also inspires

spontaneous prototyping, which is a popular approach for design thinking. The 'fail fast, fail cheap' motto is vastly accepted and encouraged for quick feedback and more idea generation.

Literature Review Conclusion:

The most successful businesses of the next generation will interject design into their core competencies, providing them the competitive advantage needed to sustain. The businesses that welcome design will innovate at a greater rate, both internally and externally. As proven with the Bank of America example previously mentioned social media has changed the way customers communicate and interact with companies. A company cannot afford to not listen. However, listening isn't the hard part. Doing something with the information gathered is. Design offers businesses a discipline to leverage their brand and generate loyalty by creating experiences customers desire. Design thinking provides a new way to approach problem solving and reinvent business.

References:

[1]Gattiker, Thomas. (March 2012). *Rethinking Design. Embracing design thinking can help organizations boost their process improvement efforts.* Quality Progress, 1, 32-37. Milwaukee, WI: American Society for Quality.

[2]Hanington, Bruce. Martin, Bella. (2012) *Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions.* Beverly, MA: Rockport Publishers.

[3]Hawkes, Jocelyn. (2012, March 29) Retrieved September 21, 2012, from Fast Company website: http://www.fastcompany.com/1826267/has-innovation-lost-its-meaning-percolates-noah-brier-its-true-definition

[4]Jenkins, Julian. (2008, Summer). *Creating the Right Environment for Design.* Design Management Review, 17, 3.

[5]Martin, Roger L. (2007) *The Opposable Mind: How Successful Leaders Win Through Integrative Thinking.* Boston, MA: Harvard Business School Press.

[6]Neumeier, Marty. (2010) The Designful Company. *Design Thinking. Integrating Innovation, Customer Experience, and Brand Value.* New York, NY: Allworth Press.

[7]Ozler, Levent. (2012, March 18) *Design the New Business.* Retrieved March 19, 2012, from Dexigner website: http://www.dexigner.com/news/24785

[8]Pine II, Joseph B. Gilmore, James H. (1999) *The Experience Economy*, Boston, MA: Harvard Business School Press.

[9]Richardson, Adam. (2010, November 15) Retrieved September 21, 2012, from Time website: http://blogs.hbr.org/cs/2010/11/using_customer_journey_maps_to.html

[10]White, Martha C. (2012, January 23) Retrieved September 21, 2012, from Time website: http://moneyland.time.com/2012/01/23/bank-of-americas-5-debit-fee-led-to-more-account-closings-ceo-says/

Appendix A

Thesis Project

Interjecting Design into an Existing Business Culture to Enable Innovation

A thesis project by Bethany Hoppenthaler

Introduction

Artifact to Business Asset

ᔆ In recent years design has evolved from an artifact centric discipline to a strategic business asset. Select designers have become **valued assets to business**, offering holistic perspectives, complex problem solving, pattern awareness and strong communication skills. Business has had to adapt to fast changing market technological, political, economic, and social environmental conditions. There is pressure on businesses to achieve more with fewer resources while also creating **sustainable competitive advantage**.

Implementing a Design Program

❧ To study how design can make a difference in an existing business culture I have developed and implemented a program of design within my current company Schroer Manufacturing, an 85-year established international animal health equipment manufacturer.

Holistic Mindset

- Design is an **asset that can leverage** a business' core competencies for greater innovation, and provide a substantial advantage over time.

- Thus **promoting cross-silo interaction** and ultimately a horizontal business model. Decisions made with a holistic mindset impact a company's ability to **innovate at a faster rate**.

To Define Innovation

- Joseph Schumpeter, the first person to speak of innovation defines innovation as "something that **does** (invention), not something that **is**."

- Over seventy years later, Noah Brier, cofounder of Percolate a branding company, defines innovation in 2012 as it relates to Schumpeter's definition, "Innovation is part of a process that involves **creating something new** (invention), figuring out how to **commercialize it** (innovation) and then actually getting to **adopt it** (marketing)."[2]

Creative Resolutions

ℬ The central meaning of innovation relates to renewal or improvement, with novelty being a consequence of this improvement. For an improvement to take place it is necessary for **people to change** the way they make decisions, or make choices outside of their norm. To enable innovation we must seek **creative resolutions** utilizing creativity, ambidextrous thinking, teamwork, end-user focus and curiosity.

Customer Experience

Literature Review

A Social Community

❧ The community we now live in is an ever-social one. Technological access is abundant and information is shared while it is happening rather than after an event. Customers (users) are **demanding of brands** to be more credible, **authentic and honest** in their business practices and messaging.

Experience Economy

- "…Experiences represent an exciting but previously unarticulated *genre of economic output*. Decoupling experiences from services in accounting for what businesses create opens up possibilities for extraordinary economic expansion – just as recognizing services as a distinct and legitimate offering led to a vibrant economic foundation in the face of a declining industrial base."[8]

Unique Value

- "The experiences we have affect who we are, what we can accomplish, and where we are going, and we will increasingly **ask companies to stage experiences to change us.**"[8]

- For a customer to do business with a brand in today's economy the brand should offer a unique value, an **experience worth sharing**. For a business to fully understand and capitalize on these opportunities it is important for them to understand the **customer journey**.

The Customer Journey
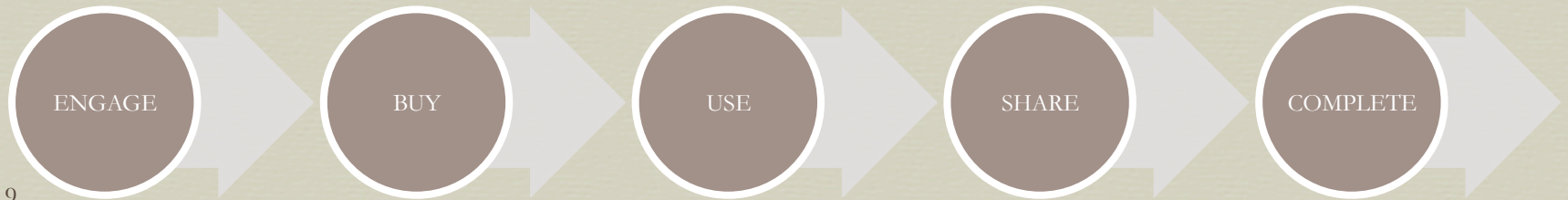
ENGAGE → BUY → USE → SHARE → COMPLETE →

❧ Businesses who use this methodology to educate themselves and then create action plans based on the findings position themselves for continued innovation. They are able to market to their customers on a **personal level** and reinvent the experience for the customer each time. Leaving the customer desiring more experiences and in turn **generating brand loyalty**.

Observation in Action

❧ The ability to adapt with the rapid **evolving world by doing something with the observational research** the brand gathers through these experiences is invaluable. Design offers a tool kit to **manage this complexity** and interpret the observations.

❧ Design is no longer solely artifact it is also a discipline. Select designers have the ability to **see patterns and draw correlations** among customers and a brand. Their disposition allows for change and inheritably they seek for **solutions beyond the norm.**

Business Model

Literature Review

Silo Culture

❧ Roger Martin, the author of *The Opposable Mind*, provides a solid example of dancing through complexity within a business culture "…specialization allows us to cope with what might be **overwhelming complexity.** Each functional area has its own training, **its own insiders' language**, and its own culture."[5]

Pattern Recognition

- Business people are analytical and are trained to make decisions. However, select **designers bring a balance** of analytical thinking and creativity. It is this balancing act between the two abilities where the **value** is found.

- Design can lead a culture to cultivate innovation by **identifying patterns** within the company that offer **opportunities for growth**. Sometimes these problems have yet to be framed.

Strategic Alignment

To offer great customer experiences and be profitable a company must **systematically create, analyze and synthesize** repeatedly throughout the process of generating new business propositions.

MANUFACTURING

MARKETING

SALES

Horizontal Business Model

ℳ Interjecting design into this mix allows for **strategic alignment** company-wide thus promoting **cross-silo interaction** and provides new methods for complex problem solving.

MANUFACTURING

MARKETING

SALES
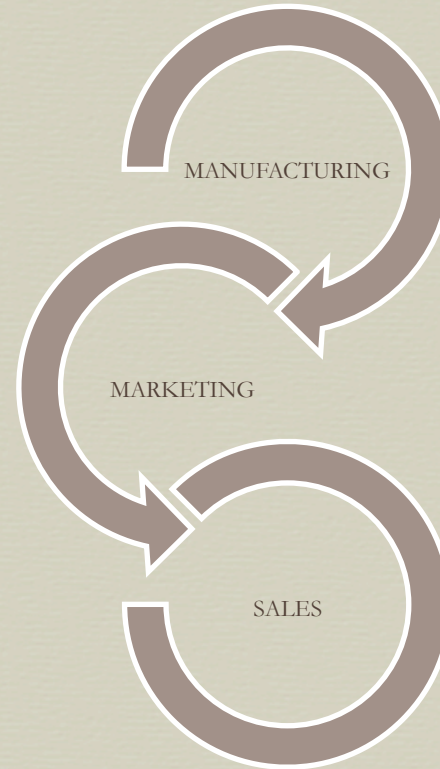
Integrative Thinking and Design Thinking

Literature Review

Complex Problem Solving

- **Integrative thinking** is a method of problem solving that constructively takes opposing ideas and rather than choosing between them, a superior idea is generated by creative resolution.

- This philosophy lays the groundwork for a **horizontal business model**. Each department within a company is working together to **align their efforts** with the company strategy.

Integrative Thinking

❧ This directly relates to **faster time to market** and greater diversification of products and services in comparison to competitors. "At the core of every integrative thinker's stance is a predisposition to **look at models together**, not separately, in search for useful answers."[5]

Fundamentally Balanced

❧ Design thinking **utilizes inspiration, ideation and implementation for creative resolution.** "…Resolving conflict between reliability and validity, between exploitation and exploration, and between analytical thinking and intuitive thinking. Both ways [integrative thinking and design thinking] **require a balance of mastery and originality.**"[5]

Design is Not Simply Creativity

❧ Some believe the **design thinking concept allows anyone to be a designer**. Martin even alludes to the possibility. However, **design is more complex. It is more than creativity**.

Design's Relation to Quality

Literature Review

Making Things Pretty

From simply being considered the department that **'makes things pretty'**, to interjecting itself into organizational processes and systems. **Championing a design-oriented cultural shift within a business is a big task.** It challenges obsolete assumptions of design and its uses.

Experiential Value

❧ Design thinking is focused on the added experiential value provided to the customer, as well as the **competitive differentiation and monetization afforded to the business**.

Applying Methods

ର Many businesses are struggling with applying new and existing **methods of problem solving** for the competitive landscape. Economic instability around the world calls for **new ways to address big challenges**.

Qualitative Versus Quantitative

❧ The main difference between the two is that design thinking's strategies are based on **ethnographic methods as opposed to the data gathering** typical of other problem-solving methods.

❧ **Traditional problem-solving techniques are based on quantitative data collection versus qualitative data.** Design thinking also takes on a holistic approach rather than a specific process or problem. **The qualitative approach allows the business to focus on the customer experience.** As the marketplace evolves, the needs of the customer evolve, and thus the business model must evolve.

PLAN

DO

CHECK

ACT
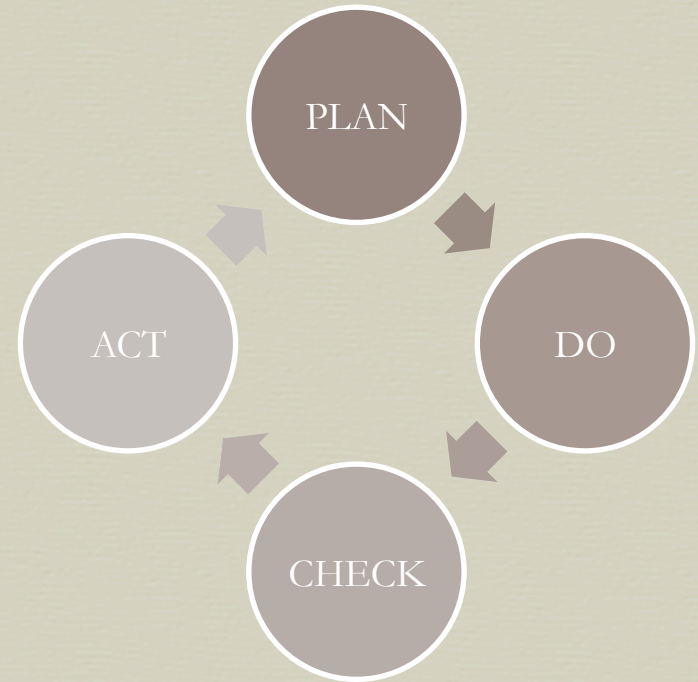
The Deming Cycle

Literature Review Conclusion

Business Welcoming Design

- The most successful businesses of the next generation will interject design into their core competencies, providing them the **competitive advantage needed to sustain**. The businesses that welcome design will **innovate at a greater rate**, both internally and externally.

- Design offers businesses a **discipline to leverage their brand** and generate loyalty by creating experiences customers desire. Design thinking provides a new way to approach problem solving and reinvent business.

Research Question

How does a company interject design into an existing business culture to enable innovation?

Method

A design program.

Design Program Proposal

The DIG: Design Innovation Group

Planting the Seed

❧ In March of 2011 I proposed a program of design *The DIG: Design Innovation Group*, to the President, Chairman of the Board, Vice President of Sales and Director of Manufacturing of the company. **The concept was accepted with no limiting terms.**

A Letter from the President to Management

❧ *"The DIG* was recently approved by ownership to tap into the **wealth of talent** that we have been blessed with throughout the company. *The DIG* will be challenged with coming up with **new creative products and concepts** that will keep us ahead of our competition. *The DIG* will be staffed with individuals not only from **different departments within company** but in some cases individuals from the outside. We are anticipating that this will **assist in creativity and imaginative products and concepts.** Your support will be the key in the success of *The DIG."*

Seeking Peer Advocates

❧ Prior to presenting the design program to stakeholders, I approached the Director of Engineering and Quality Manager and **sought collaboration** to create the program.

❧ This in turn generated advocates to help champion this group and brought both **qualitative and quantitative** approaches to the program. Each is a leader of established groups that play major roles in our company's innovation.

Established Groups

- Our company has a monthly **Quality** (Q) meeting where we discuss data that is collected from accounting to production to marketing and seek to improve established processes or create new processes. This meeting is administrated by the Quality Manager.

- A **Continuous Product Improvement** (CPI) meeting is held bi-monthly where current and new products are discussed. This meeting is administrated by the Director of Engineering.

- Each group has proven to **improve the value system**, as Schumpeter refers, of our business culture.

Interjecting *The DIG* into our Business Culture

Current Culture

- After reviewing our current innovation culture of processes and products with both the Quality Manager and Director of Engineering it was determined that we **conduct business within silos**.

- We had to then determine where to interject *The DIG* into our current business process, knowing a goal of *The DIG* is to **promote and nurture a cultural shift** to cross-silo interaction.
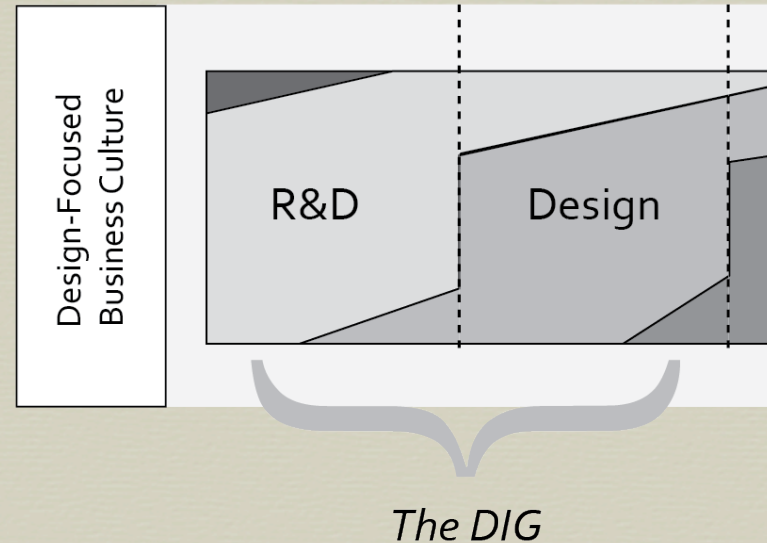
Interjecting the Culture
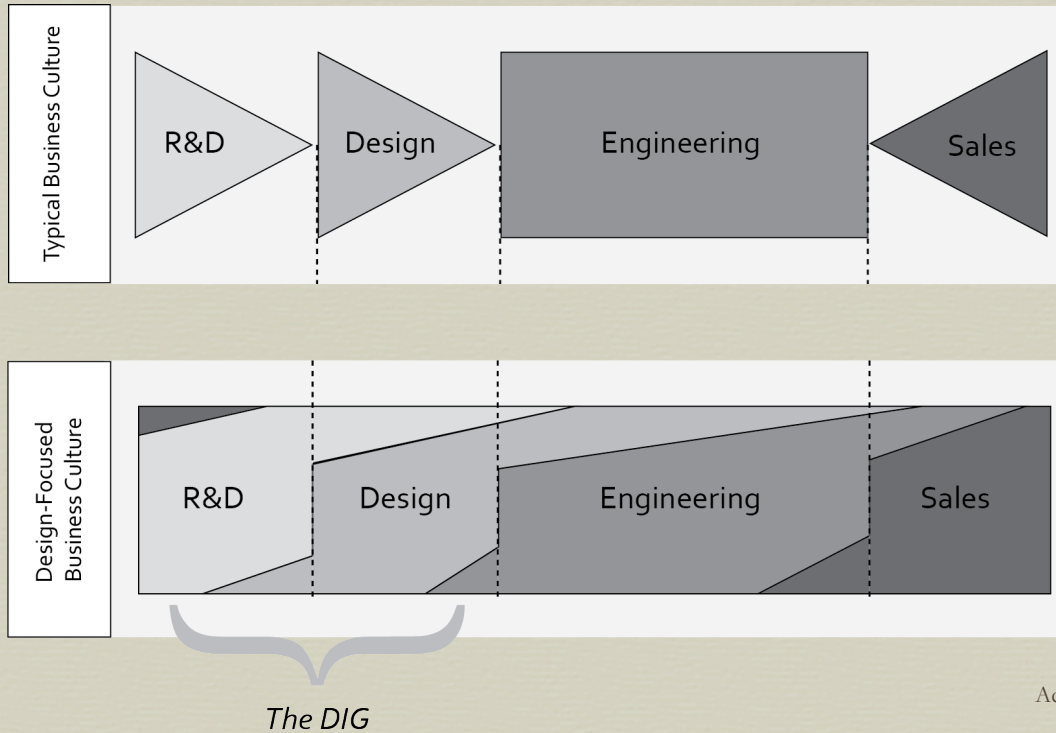
Adapted from Michael Eckersley via Bill
Buxton, Sketching User Experience

Knowledge Transfer

 The concerns of inter-department politics, existing processes, cost and prototyping do not dictate the innovation process. **Cross-silo collaboration is encouraged**.

Design-Focused Business Culture

R&D   Design

The DIG

The DIG's Mission

From design thinking we cultivate new ideas by thinking in uncommon ways without restrictions. We focus on curiosity, creativity and imagination. Together we utilize our strengths and dream up ideas that spur innovation. Fueling our competitive edge.

The 7 Stages

- The design thinking process has seven stages: **define, research, ideate, prototype, choose, implement, and learn.** Within these seven steps, problems can be framed, the right questions can be asked, more ideas can be created, and the best answers can be chosen.

- **These steps aren't linear**; they can occur simultaneously and can be repeated.

The DIG Basics

❧ A **Session** is a group that researches and reviews a topic (product or process) using *The DIG* process.
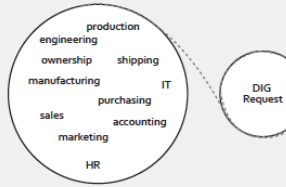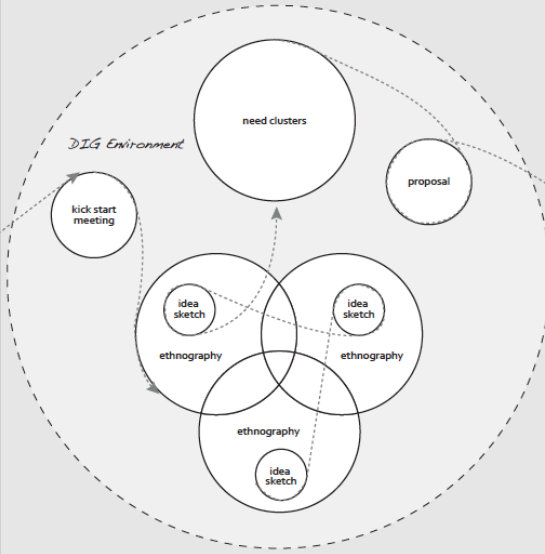
❧ *The DIG* process consists of **four phases**.
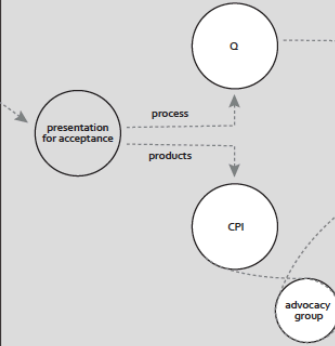
The DIG Process

The Four Phases
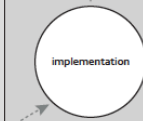
The DIG Process

Sessions

Sessions

- To initiate the group we rotated two Sessions each comprised of **6-8 individuals** from various company backgrounds including a facilitator, in which I was responsible for this role.

- The Sessions lasted **six months** each and met every other Wednesday, a total of **12 times**. Each meeting lasted no longer than an hour. A **total of 72-96 hours per Session** devoted to *The DIG* over a **six-month period**, a minimal time investment.

Sessions

- One Session focused on products and the other internal process. The Quality Manager, Director of Engineering and myself determined these topics based on existing challenges at the time.

  - Session 1: Grooming Market – new products

  - Session 2: Deburring – a manufacturing process

The DIG Pilot

The Findings

Testing the Theory

❧ *The DIG's* process was created focusing on the **design thinking concept**. This concept was tested to determine if it eliminates the fear of failure and encourages maximum input and participation in the ideation and prototype phases in turn **enabling innovation** within the business culture.

Results

The DIG Pilot Sessions: 1 & 2

Session 1: Grooming Market

ꬶ Overall, from 2010 to 2015, pet grooming expenditures are expected to **grow by an average of 8.2% per year, totaling $2.12 billion in 2015.**

Sundale Research © Sundale Research, 2011

Pet Services: Grooming & Boarding

- ■ Pet Services
- ▢ Grooming
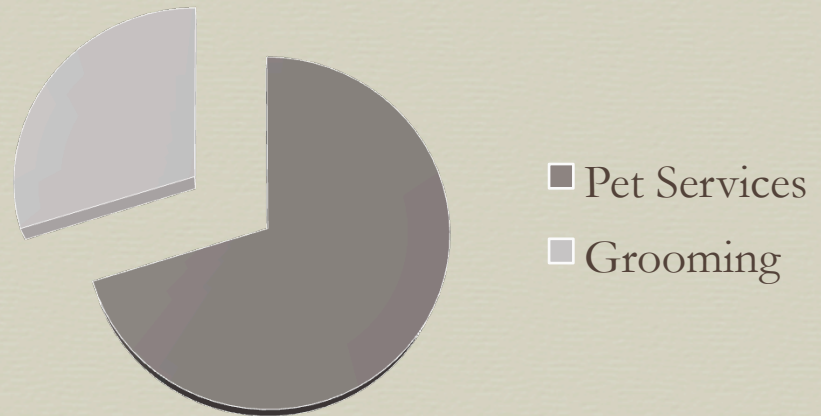
Research & Methods

- **Professional Groomer Interview:** Ashley, Pete & Max.

- **Ethnography Research:** PetSmart, Barkery & Bath, Petco and a few mom & pop's.

- **Additional Research**

  - Reviewed competitor D&Bs, advertisements and industry journals and websites.

Hypothesis

- To be successful in the Grooming Market we have to remove ourselves from the quality associated with the brand.

- Groomers do not have a career expectancy of more than 10-15 years. They are looking for products to support ergonomics, reflect their eccentric nature and are within a specific price range.

Products Identified

- Grooming Table: colors, cutting cost.

- Dryer Cage: outside or inside application.

- Grooming Tub: fiberglass, elevating, etc.

Colored Grooming Tables

Market Research

- Market research at **grooming tradeshows**. Lots of foot traffic and high interest in the colors.

- So much in fact that all **four beta models were sold** at the first show and one of the two rejected colors was sold at Super Zoo.

- The order of colored tables in preference: **Plum Perfect, Screamin' Green, Burnt Orange and Electric Pink**.

Session 1: Results

- Faster time to market: **6 weeks**

- **Two models introduced**: Classic Grooming Table and Elite Grooming Table

- **Four color options** were introduced.

- A **58% cost reduction**.

- **Opened the door** for more products throughout the company to be considered for a Session topic.

- A *DIG* **budget was granted** for the prototype phases.

Customer Satisfaction

❧ Hi Guy,
Here's my first 'customer' on the NEW grooming table! It is my 7 year old Clumber Spaniel 'Plum'. She didn't bat an eyelash as it levitated up...it was very smooth and quiet.

Thank you for your help!

Sincerely,
Catherine C.

Received October 8, 2012 by email.

Session 2: Deburring

- Deburring is the act of **removing sharp edges** and polishing stainless steel so that it may be handled with the bare hand within the **manufacturing process**.

Number of Products Deburred

- Deburred
- Non-Deburred
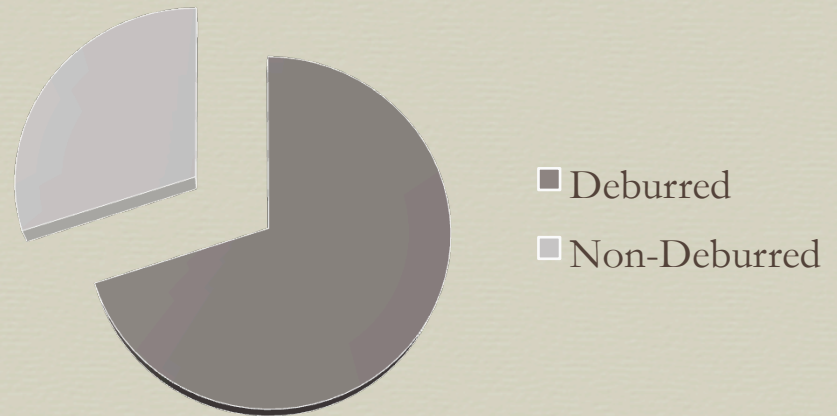
Research & Methods

- **Interviews:** laborers, supervisors and management

- **Ethnography Research:** observation on the manufacturing floor

- **Additional Research**

    - Samples were gathered and sent to industry laboratories for testing.

    - Information was gathered of other companies that manufacture steel products as well as toys.

Hypothesis

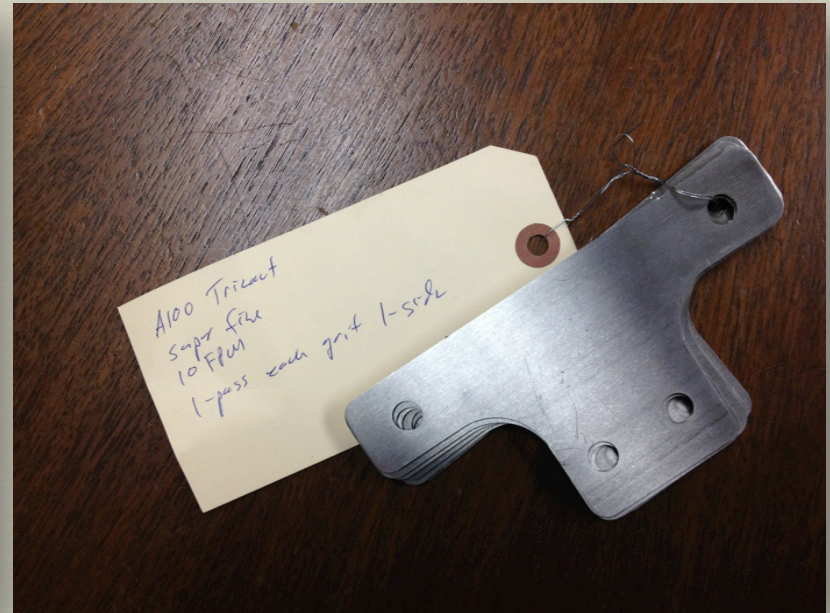- As a leading manufacturer of stainless steel veterinary equipment measures must be taken to prevent personnel, customer and animal harm from our products.

- A standard must be agreed upon and provided for all departments to touch and feel and measure against.

Products Identified

◈ Cage and Kennel Run Latch Bars, Trim Plates and Dividers.

Session 2: Results

- A **standard was agreed** upon and a sample currently hangs in each department for reference.

- Supervisors are **more aware** and request random samples for testing.

- All laborers are aware of the process in its entirety and are **proactive in the inspection** of each product for sharp edges.

- The Session results are **safety and a cost reduction** by not resubmitting products to the deburr department for additional processing.

Process Refinement

The DIG Environment

Phase 2

DIG Environment

need clusters

proposal

kick start
meeting

idea
sketch

idea
sketch

ethnography

ethnography

ethnography

idea
sketch
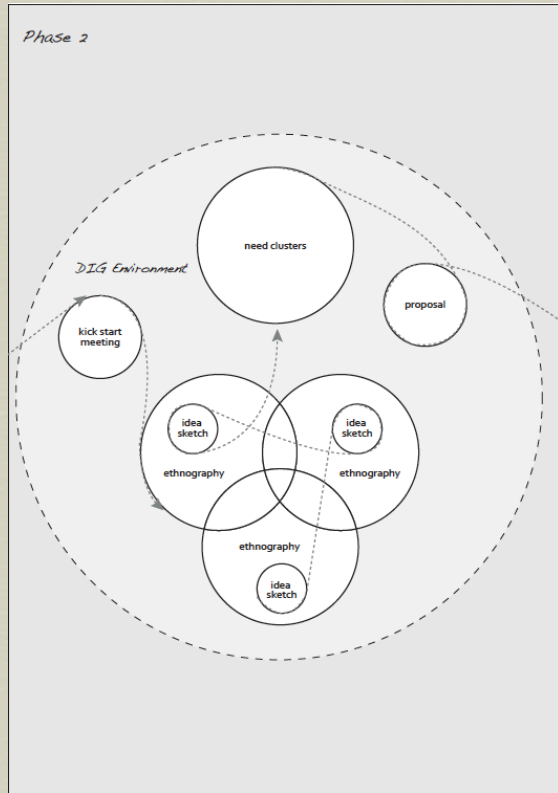
❧ While Phase 2 is illustrated in *The DIG* Process Map, the **Five Step Process** provides a more detailed roadmap for the participants of the Sessions. Allowing for adaptation and reorganizing during each Session.

❧ I also implemented a questionnaire at the start of a Session: Goals, Fears and Expectations.

Goals, Fears & Expectations

Five Step Process

1. **Determine:** Set the initial goal.

2. **Explore:** Research using multiple methods.

3. **Ideate:** Gather all the research and start to idea sketch.

4. **Report:** State the initial outcomes.

5. **Regroup:** Determine if/where it is necessary to dive back into a problem to reframe.

Five Step Process Diagram
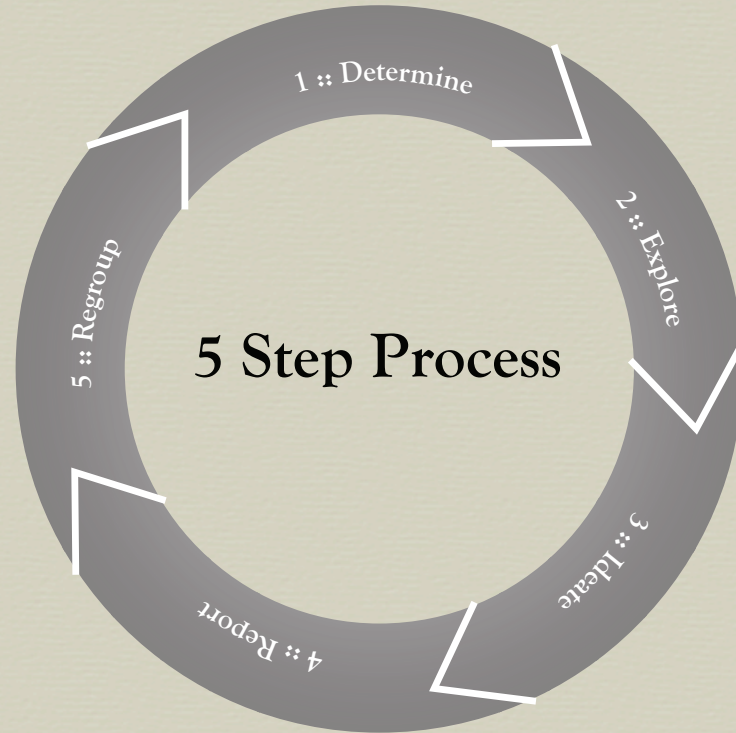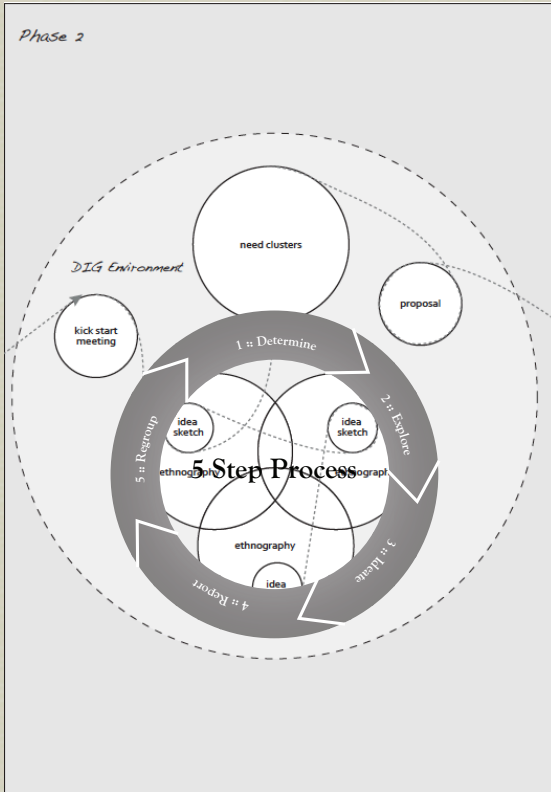
Determine

❧ During my research of *The DIG* process, many individuals struggled grasping the idea of having multiple problems and solving within them. **Each wanted a definitive goal and a solution.** Yet most of *The DIG* Sessions concentrated on more complex problems. So **micro goals** (or problems) were determined and acted upon.

Explore

❧   For the study of *The DIG*, ethnography research was the first step. As the members of the group were **not familiar** with the Session topic it was imperative to dive into the subject and explore.

❧   The ethnography research was conducted for about 4 weeks. For one Session it was **out and about** at places of business, corporations and such. For the other Session it was in the **manufacturing plant** in the same building they worked.

❧   As each group **recorded their findings** they regrouped and came together to ideate.

Ideate
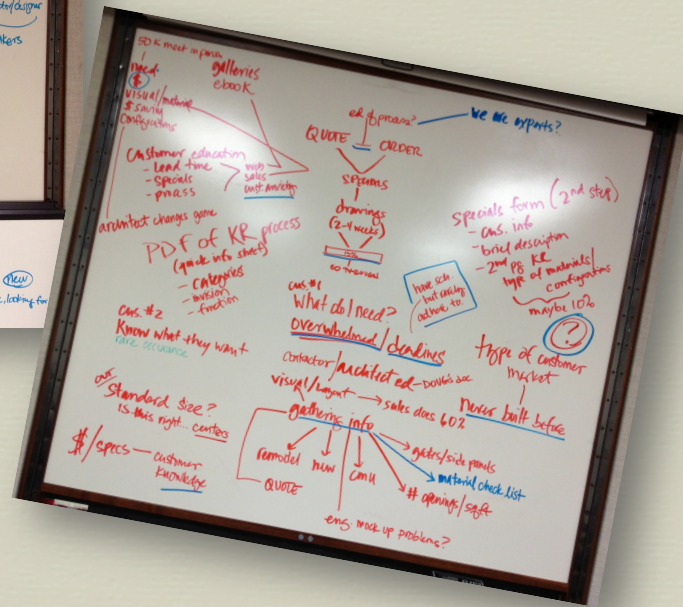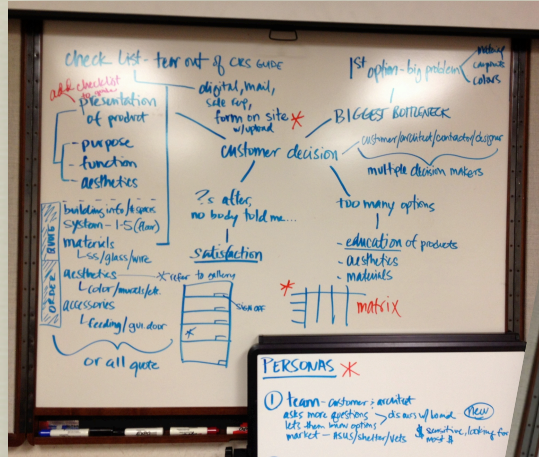
❧ Idea matrixes were generated and clusters of opportunities were determined. As these opportunities presented themselves; ideas of how to improve, innovate and implement started flowing.

Report

- An informal report is completed to showcase the findings of the Session. As these are the initial findings the group includes **all supporting materials for review**. The facilitator, myself, generates the report. Then together review and refine.

- The report is then **presented to the established groups** of the topics chosen. Either CPI or the Q.

Regroup

- After *The DIG* presents, the established group is asked to **accept or reject the findings**.

- If the findings are accepted then the stakeholders of each **established group implement** the Product or Process.

- Any rejection is requested in written format so that *The DIG* can **review the oppositions** and determine if it is necessary to dive back into a **problem to reframe, then represent.**

Reflection

Advocates Reflection

❧ The **Quality Manager** (Q) and **Director of Engineering** (E) were asked to reflect on *The DIG*, the Sessions they were participants of and *The DIG's* affect on our business culture. The following were their findings respectively.

What have you observed of participants emotions, behavior, empowerment and participation during a Session?

❧ *Q: Participants went through the usual stages of groups forming before participation became more substantive. There was some reluctance to speak up when upper management attended meetings and while some participants looked to become somewhat empowered during meetings, that same empowerment did not always transfer outside the meeting.*

❧ *E: I witnessed a voluntary excitement in all participants. Each was attentive and each was willing to share their viewpoints outside the box.*

What offshoot improvements have you seen as a result of a *DIG* Session? Meaning improvements that have been a result of a conversation spurred by a Session but not the topic.

- *Q: I noticed an increased awareness of certain process issues under discussion and some precursory corrective measures being implemented. But outside of that and not having attended the other sessions, I have not observed any.*

- *E: I think it is too early to comment on this. I think the DIG program needs to be active for three or four years in a company environment before a person can observe changes.*

What adverse effects have resulted from *The DIG*?

- *Q: There is some skepticism over the process along the lines of 'See, we get together and nothing much changes.' Well, a cross-functional group of people of varying status' getting together to talk about issues in a round table discussion is a change. People working together to prepare, submit, and present a proposal to ownership is a change. Just because a proposal does not generate a tectonic 'change' does not mean the process was not a learning experience. Sometimes we assess a situation and say 'No' or 'Not at this time' and that is OK.*

- *E: Other than maybe some hurt feelings (by higher ranking people for not being invited) I have seen none.*

What affect has *The DIG* had on our business culture?

- *Q: It has helped open the door for more inclusive meetings by asking questions like: Are the right people being invited? What can we do different? What would our customers say or do? It has helped us embrace innovative thinking for process and product problem-solving.*

- *E: It is too early to tell. The DIG program is too new. The DIG is a process to stimulate thinking, to open thoughts from an individual different from the everyday norm. It doesn't manifest itself overnight.*

Participants

❧ The participants were asked to reflect on *The DIG*, the Sessions they were participants of and *The DIG's* affect on our business culture.

❧ The following are the findings of participants who obliged to reflect. **60%** of the participants responded.

ᔔ **Quotation Reference Key:**
S: Sales
R&D: Research and Development
M: Manufacturing Support Supervisor

Comfort Level

- **On a scale of 1 – 5**: 1 being most comfortable and 5 being least comfortable.

  - 1. What was your comfort level within the group during your Session? *All answered 1. However, in the initial meetings they were uneasy. By the end, when this survey was conducted, they were at ease.*

  - 2. Were you able to speak openly regarding your Session topic? *All answered 1.*

  - 3. If you were not comfortable, what changes and /or enhancements could be made to the environment to enable comfort? *No Changes.*

1. Did you feel empowered to ask more questions you otherwise would not have within our business culture?

- *S: Yes, with a small group I felt like it was easier to communicate and also liked not having (sales management in the group) . I think removing management from a creative group is very helpful. People become very hesitant to speak of new ideas around ownership or management.*

- *R&D: Yes, Especially in the Premium Run Gate session as it is a product line I was not familiar with.*

- *M: No, because I ask a lot of questions anyways.*

2. Did you feel like you had the ability to initiate change within our business culture after your Session?

- *S: I felt like I had a better understanding of who and why so many delays occur with a new idea or new product.*

- *R&D: Yes, but only to a degree. I think a project can go only so far if it requires either large expenditures or not backed by ownership.*

- *M: Yes.*

3. What offshoot improvements have you seen as a result of a *DIG* Session? Meaning improvements that have been a result of a conversation spurred by a Session but not the topic.

- *S: The new Elite Grooming Tub, which was probably already being worked on, but we discussed making a more easy to use and more economical grooming tub. We also talked about possible dryer cage attachments versus just having a dryer cage.*

- *R&D: The Grooming Market session started a series of actuator testing to locate a lower cost but reliable actuator. This has been successful and a very large cost savings will be realized on the Grooming table, MALT table and possibly the Co-Jack table.*

- *M: Haven't seen any.*

4. What adverse effects have resulted from *The DIG*?

- *S: People not understanding the process or how the group was selected.*

- *R&D: No adverse affects that I am aware of.*

- *M: Haven't seen any.*

Plant Liaison

❧ *"Overall I believe the program has been and could be successful as long as all parties buy into the fact the management is behind the changes that have been talked about and agreed to. I think on some things you can empower the employees but it is easy for them to lose interest if there ideas are not heard in the way that it has been explained.*

If good ideas are shot down without even trying then you lose your cooperation of your attendees and don't have so many meeting before given the suggestion to management. If we are going down the wrong path due to cost, manpower and other things we can change course to make sure we're in line with management instead of scraping the whole idea."

Welding Supervisor

ꙮ *"First I'm sorry for what might seem like I just bailed on you. It's not like that. I'm not one for discussion on topics I consider second nature to me. That may sound conceited but it's the facts.*

I do believe there is a strong merit to your program and benefits are possible with correct implementations. Getting them to stick is where I have my doubts. I have heard a lot of sweet talking over my 27 years here and have seen very little stand the test of time. In fact, I think the fact we are having to "look" at these kinds of things says a lot about our hiring practices. Simple things like deburring should already be in the DNA of our work force. Its not. That's a sad commentary all its own. We can bring our standards up. I have faith we can. Your program can help that. But I got to tell you, getting things to stick is a tricky thing around here. Show me that and I'll be your best soldier."

Stakeholders

ᚼ The **President** and **Chairman of the Board** were asked to reflect on *The DIG* and its affect on our business culture. The following were their findings.

President

༄ When asked what design and *The DIG* mean to him:

"As a business owner you have to look at the big picture. Roy Williams said it right 'You have to have the want to'. You have to want to look at innovation in many aspects and position yourself to gain advantage. You must invest in equipment, technology and your people. The DIG has helped by involving others than just the management group. We tried this with CPI yet we have failed. We must ask ourselves are we including the right people? The DIG does involve other people from diverse areas and this is important. We need to incorporate this philosophy in other areas of the company."

Chairman of the Board

ﾐ When asked what design and *The DIG* mean to him:

"The element of design is creativity and the ability to use creativity to problem solve is key. It takes an ambidextrous thinking person to facilitate The DIG to bring the ideas from concept to reality."

Program Results

The DIG evolving our business culture.

A Second Round

❧ We are currently in the second round of *DIG* Sessions. After reviewing the outcomes of the first two initiated Sessions the stakeholders requested a proposal for each *DIG* Session for 2012.

Credibility Found in the Process

❧ As we initiated **only two topics** for six months in 2011, the stakeholders wished to **invest in five topics** for 2012.

❧ The topics ranged from **product enhancements to product placement** within the industry.

Design is Interjected

- The **product enhancements** Session is a down and dirty Session to be completed in six weeks and consists of seven individuals including myself the facilitator.

- The **industry placement** Session requires more thoroughness and will inevitably **change the way our company conducts business**. Thus this Session is scheduled for 16 weeks and includes upper management and stakeholders.

Conclusion

My thoughts.

My Reflection

- **Championing a design-oriented cultural shift within a business is a big task.** It challenges obsolete assumptions of design and its uses.

- It determines the **longevity of a brand** and its competitive advantage.

- Design also **stimulates innovation** at a faster rate and has the **power to change a business culture**.

The DIG Evolving

Phase 1

Phase 2

Phase 3

Phase 4

production
engineering
ownership   shipping
manufacturing   IT
purchasing
sales   accounting
marketing
HR

DIG Request

Team Creation

DIG Environment

kick start meeting

ideation, synthesize & analyze
concept boards
positioning
1st iteration prototypes
usage testing
benefit delivery
benefit recognition

proposal & design brief

information inputs
technology
market trends
channel trends
competitive landscape
target segmentation
customer research
UX research

idea sketch

needs hierarchy
paradigm shift
qualitatives

idea sketch

advocate studies
habits & practices
life styles

ethnography/UX
usage & attitudes
complaint tracking

idea sketch

presentation for acceptance

process

products

Q

CPI Environment

concept development
2nd iteration prototypes
market size/growth
usage testing
benefit delivery
benefit recognition

advocacy group

business opportunity assessment
pricing/profit
quanatative
& purchase intent

Marketing Toolbox	*Engineering Toolbox*
Market Development naming brand identity packaging website verbal identity awarenss & traffic generation plans education of sales & technical service	**Manufacturing Development** ECR costing production run with designer obtain name from Marketing generate part number
Market Validation awarenss & traffic trial channel (dis. & partner) plan lead generation advertising & awareness	**Manufacturing Validation** production run design changes final costing
Launch brand launch web launch PR SEO content blog online media traditional media	**Product Release** ECN Engineering release