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The Intangible Factors of Design and New Product Development

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The Intangible Factors of Design & New Product Development

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Sean Mcmahon, Fahad Ullah
Agenda

● Abstract
● Introduction to intangible factors and intangible value
● Literature taxonomy of the 3 layers of intangible design
● Defining the 3 layers of intangible design
  ○ Knowledge
  ○ Emotion
  ○ Experience
● Literature taxonomy of the creation of brand loyalty through intangible design
● Research model
● Case studies with analyses and results
● Recommendations for further research
● Concluding thoughts
Abstract

- Every product or service has two sets of realizable values for the consumer: the tangible and the intangible
- Neither set happens by accident
  - The physical use and all hedonic aspects are built in
- Built in through the intangible factors of design
- The 3 layers of intangible design
  - Knowledge, emotion, experience
- A new outlook on the intangible
  - Companies everywhere are changing their focus to the intangible. It defines their market niche, as well as helps create brand loyalty
- Intangible factors of product management
Introduction to Intangible Factors and Value

- Difference between intangible and tangible value
  - **Tangible** - A value that's real or actual, and can be measured
  - **Intangible** - Any value that can be realized but cannot be measured, and has no standard metric

- Examples of the intangible factors of design
  - The knowledge each worker possesses, the value of the team itself, individual experiences each member brings, perspective

- Value conversion

- **Knowledge** - Information gathered about a brand or product that gives the user insight for their decision-making process

- **Emotion** - The reaction to a stimuli the consumer exhibits through interacting with a brand or product

- **Experience** - The sum of all experiences a consumer has with a company during their relationship
# Literature Taxonomy of the Three Layers of Intangible Design

<table>
<thead>
<tr>
<th>Author/ Research year</th>
<th>Key Insights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td></td>
</tr>
<tr>
<td>Allee, V. (2008)</td>
<td>Knowledge can be traded for more knowledge; it can traded for another form of intangible value or a packaged and sold for profit as an intangible</td>
</tr>
<tr>
<td>Bowden, J. L. (2009)</td>
<td>Involvement, commitment, loyalty three distinctions in customer engagement</td>
</tr>
<tr>
<td><strong>Emotion</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
</tr>
<tr>
<td>Higgins, E. T. (2006)</td>
<td>Hedonic experience increase the opportunity for strengthening value and engagement</td>
</tr>
</tbody>
</table>
Knowledge: Awareness, Perceptions, Expectations

- **Awareness**: extent to which a brand is recognized by potential customers, and is correctly associated with a particular product. Product awareness can consist of consumer knowledge of brand benefits, features, slogan, tag lines and other brand messaging elements.

- **Perceptions**: encompasses a customer's impression, awareness and or consciousness about a company or its offerings. Perception is typically affected by advertising, review, public relations, social media, personal experiences and other channels.

- **Expectations**: perceived-value customers seek from the purchase of a good or service.

Knowledge and Brand Loyalty

Customer-Based Brand Equity Pyramid

**Brand Salience**: relates to aspects of customer awareness of the brand. Includes linking the brand, brand name, logo, symbol etc. to certain associations in memory.

**Consumer Judgments**: is the customers personal opinions and evaluations with the brand.

- Brand credibility
- Brand superiority

**Affect and Cognition**

**Affect** refers to a feeling response, **cognition** is used to interpret, make sense of and understand user experience. Additionally, cognition contributes to the regulation of emotion.

A product should be designed to support customer needs, including the customers person or personality attributes.

- Ease of use (flow) and emotions in using (feelings)

**Emotion and Brand Loyalty**

Customer-Based Brand Equity Pyramid

**Brand Imagery**: how people think and view the brand rather than what they think the brand does.

- User profiles
- Purchase and usage situations
- Personality and values

**Consumer Feelings**: the customers emotional responses and reactions with respect to the brand. For example:

- Warmth
- Excitement
- Social approval
- Self-respect

Three Types of Product Experience

• **Aesthetic Experience**: considering a products capacity to delight one or more of our sensory modalities.

• **Experience of meaning**: cognitive processes including interpretation, memory and retrieval which creates expressive characteristics and assess the personal or symbolic significance of products

• **Emotional Experience**: The interpretation of a product causing emotion.

Particular experiences may activate other levels of experience.

Experience and Brand Loyalty

Customer-Based Brand Equity Pyramid

Brand Performance: relates to the ways in which the product or service attempts to meet customers more functional needs.

- Product reliability and durability
- Style and design
- Price

## Literature Taxonomy of the Creation of Brand Loyalty Through Intangible Design

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Consumer Awareness</th>
<th>“The relations among the brand awareness, perceived quality and brand loyalty for purchase intention are significant and positive effect” (Kuang).</th>
<th>“Brand awareness is also likely to contribute to consumer perception of price fairness” (Oh)</th>
<th>“brand awareness seems to be an important choice tactic for consumers, even when facing a familiar or repeat choice” (Macdonald).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Judgments</td>
<td>To support brand judgments four types are needed, brand equality, brand credibility, brand consideration and brand superiority (Keller).</td>
<td>“No matter how highly regarded or credible brand may be, unless the brand also received serious consideration and is deemed relevant, customers will always keep a brand at a distance and never closely embrace it” (Keller).</td>
<td>“Credibility...enhances word-of-mouth and reduces switching behaviors among customers” (Sweeneya).</td>
<td></td>
</tr>
<tr>
<td>Emotion</td>
<td>Emotional Engagement</td>
<td>“Affective conviction about the brand would be a major element to emerge when retrieving the memory associated with the brand...influence the loyalty.” (Jooyoung).</td>
<td>“The higher the affective brand conservation, the higher the level of brand commitment” (Jooyoung)</td>
<td>“Emotions act as better predictors of behavior than do cognitive evaluations…” (Dick)</td>
</tr>
<tr>
<td>Experience</td>
<td>Brand Reliability</td>
<td>To create brand loyalty consumers experience with the product needs to meet their expectations (Keller).</td>
<td>“brand credibility...is the initiator of establishing brand loyalty” (Jooyoung).</td>
<td>“Brand as a whole is seen as credible in terms of three dimensions-perceived expertise, trustworthiness, and likeability” (Keller).</td>
</tr>
<tr>
<td>Past Experiences</td>
<td>“Product experience is a multi-faceted phenomenon that involves manifestations such as subjective feelings, behavioural reactions, expressive reactions, and physiological reactions” (Desmet).</td>
<td>“A successful brand shapes customers experiences by embedding the fundamental value proposition in offering every feature” (Meyer).</td>
<td>“Peoples expectations are set in part by their previous experiences with a company's offerings. Customers instinctively compare each new experience, positive or otherwise, with their previous ones and judge it accordingly” (Meyer).</td>
<td></td>
</tr>
</tbody>
</table>
Research Questions

1. What is intangible value in terms of the intangible factors of design and new product management?

2. What is the importance of intangible design and new product management to business today?

3. How are corporations trying to design intangible value into products while utilizing the intangible factors of design and new product management?

4. What effects can we see from this new focus on the intangible factors of design and new product management in business today?
New Product Stage Gate Process

- Idea Generation
- Concept Investigation
- Concept Details
- Development
- Testing & Validation
- Production

- Idea Screen
- Second Screen
- Go to Development
- Go to Testing
- Go to Launch

P.I.R.

Veryzer, Brigitte 2005
Intangible Design Factors
- Intellectual Capital
- Team Value
- Product Manager Value

Design Process
- Knowledge Layer
- Emotion Layer
- Experience Layer

Relevance
- Innovation
- Brand loyalty
- Brand image
- New product success

Effects in Real Time
- Case studies
- Analysis

Product Management

Research Model

Input
Output
The Two Models Together

Product Management

- Idea Generation
  - Idea Screen
  - Second Screen

- Concept Investigation
  - Concept Details
  - Go to Development

- Design Process
  - Relevance
  - Effects in Real Time

- Development
  - Go to Testing

- Testing & Validation
  - Go to Launch

- Production

- Intangible Design Factors

Engine

P.I.R.
Double Helix Model Thinking

**Left**
- Stage Gate Process

**Right**
- Intangible Design Process

- Concept Investigation
- Engine
- Intangible Design Factors

- Concept Details
- Engine
- Design Process

- Development
- Engine
- Design Process

- Testing & Validation
- Engine
- Relevance

- Production/Post Implementation Research
- Engine
- Effects in Real Time

Product Management

Model Thinking

Double Helix

- Double Helix Model Thinking

- Left
- Stage Gate Process

- Right
- Intangible Design Process

- Concept Investigation
- Engine
- Intangible Design Factors

- Concept Details
- Engine
- Design Process

- Development
- Engine
- Design Process

- Testing & Validation
- Engine
- Relevance

- Production/Post Implementation Research
- Engine
- Effects in Real Time

Product Management
Case Study: Gamification at SAP Community Network

SAP is a market leader in Enterprise Resource Planning system, that helps organizations run their different departments. SAP helps their customers to run their business efficiently by providing cloud computing, analytics and other high tech technologies.

- **Knowledge**: SAP Community Network (SCN) incorporates functionality that encourages, recognizes, and rewards participation in the community.
- **Emotion**: Feeling of satisfaction when community responds to a particular problem posted on the forum.
- **Experience**: Provides community based atmosphere where users and developers coexist to share information.
Case Study: IKEA

Established in 1950’s by Ingvar Kamprad. He knew how to identify well with ordinary people. IKEA delivers low priced high quality furniture to people around the world.

- **Knowledge**: Show the product in the natural environment before the customer buys it via showroom.
- **Emotion**: Low price and high quality leaves the customer satisfied with the purchase.
- **Experience**: Provides almost all household goods needed by people to offer one-time shopping experience.
Case Study: IDEO

Founded in 1978 that provides innovation and design services to clients in a range of industries. IDEO has designed over 4,000 new products for almost 1,000 different clients.

- **Knowledge**: Design products based on - not necessarily - the target audience in mind but those potential non users.
- **Emotion**: Aesthetically pleasing design to make users feel comfortable.
- **Experience**: IDEO builds upon past research to make future product viable.
Intangible Design Factors
- Intellectual Capital
- Team Value
- Product Manager Value

Design Process
- Knowledge Layer
- Emotion Layer
- Experience Layer

Relevance
- Innovation
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Effects in Real Time
- Case studies
- Analysis

Analyses & Conclusions
Recommendations for Future Research

- Value Conversion
- How intangible factors affect consumer behavior
- Can you only add intangible value by means of innovation?
Concluding Thoughts and Statements

- Most people have not realized the importance of intangible factors until very recently.
- That Intangible factors could be considered more important than tangible factors.
- Each step in the intangible design process is important and won't function properly with a missing piece. Without completing all parts you cannot gain the true value.
- You can't have intangible factors without tangible factors and vice versa.
- That “intangible” need by the consumer is not always easy to decipher.
- Observing how users/consumers use a product is a key factor in design.
- Value co-creation and Intangible design factors influence
References


Clardy, Alan (2005), *IDEO: A Study in Core Competence,* working paper, Towson University.


References Continued


