The Third Dimension: Towards a Third Generation Systems Approach to Wicked Branding Problems

John Takamura*, Nancy J. Gray**

* Arizona State University
  Tempe, AZ  john.takamura@asu.edu

** Arizona State University
  Tempe, AZ  nancy.gray@asu.edu

Abstract: Branding problems are wicked problems more often than not. The Second Generation Systems Approach as defined by Horst Rittel suggests that experts alone cannot solve “wicked” or ill-defined problems. In a Second Generation Systems Approach to a wicked branding problem, the various stakeholders affected by the brand possess the collective knowledge needed to develop a brand solution. A Second Generations Systems approach to solving wicked branding problems would appear to marginalize the input of the expert or, in this case, the brand developer/designer. In order to solve complex “wicked” branding problems, brand developers and designers must consider a Third Generation design methodology as inspired by Karl Popper, where stakeholder involvement is coordinated with expert design “conjecture” and stakeholder “refutation” along the lines of critical rationalism.

In the post-positivist realm of design research, the need for methods that blur the borders of established approaches is essential when trying to solve complex multi-perspective design problems in the branding domain. This paper presents a Third Generation brand design approach, which combines both stakeholder and expert knowledge through the development of a periodic table of brand bonding elements and its application in the construction of complex brand DNA molecules. The brand periodic table and brand DNA molecules have been informed by data gathered through quantitative and qualitative research methods employed in two case studies of Vespa® motor scooters and a government-sponsored brand identity along with environmental research and design.
1. Introduction to Wicked Branding Problems

We have a problem. A problem that has no definitive formulation, which requires an enormous amount of additional information, has no stopping rule, and whose “for better or for worse” (true or false is not an option here) cannot be tested. Furthermore, our problem is essentially unique, requiring a “one-shot operation” – no opportunity to learn by trial-and-error. Of course, we are certain that this is only a symptom of another problem and that additional consequences are looming. Above all, those of us in search of a solution are ultimately and entirely responsible for the solutions and consequences – even the unintended ones. In other words, we have no right to be wrong! This problem is wicked! If you are engaged in the activity of creating and managing brands, we would wager that it sounds all too familiar. We propose that branding problems are wicked problems more often than not.


1.1 No definitive formulation

Rittel states that the first property of “wicked problems” (WPs) is that there is no definitive formulation of the problem, as additional information is always required to solve it. With each solution derived in the process more questions are generated, resulting in the need for more information to answer them. The solutions to branding problems require more than just a visual identity; they require knowledge of the audience and their specifics needs on a variety of levels from market demographics to socio-cultural trends.
1.2 Embedded problem and solution statements
Rittel denotes the second property of WPs as that every formulation of a wicked problem corresponds to the statement of the solution and that the solution is embedded in the problem statement. This is very different from what Rittel referred to as “tame problems” (TPs) where the problem statement and the solution are separate things, as in mathematical equations. For example, the problem statement to design a brand to appeal to the social networking needs of a specific market is exactly that of the solution: a brand that “appeals to the social networking needs of that market.”

1.3 No stopping rule
The third property of WPs it that they do not have a stopping rule, because you can always continue to improve solutions. Again, unlike chess problems or mathematical equations, the end of a WP is never reached, and only stopped for reasons of time limitation and/or budget. This is true with any brand development problem as identities change and evolve over time and solutions are not temporally bound.

1.4 Solutions cannot be correct or false
The fourth property of WPs is that their solutions are neither “correct” nor “false,” but can only be considered in terms of varying degrees of effectiveness. There is no criterion by which one can judge a brand solution to be absolutely correct or absolutely false, and solutions to wicked branding problems can only be judged by their appropriateness within a specific set of circumstances.

1.5 Enumerable, exhaustive option set
Rittel states that the fifth property of WPs is that they have no ‘enumerable, exhaustive set of permissible operations’ that may be incorporated into the plan and that there are an infinite number of possible operations. Branding problems can be approached in an infinite number of ways from visual identity, to product identity, to environments, to services, to experiences and any combination thereof.

1.6 No single test
The sixth property of WPs is that they can never have a single test of the solution(s), because there are many explanations as to why a solution isn’t what it “ought to be.” It would be next
to impossible to construct a viable test to determine the causes of a brand’s failure on the market, as there would be a multitude of variables to consider.

1.7 A symptom of another problem
The seventh property Rittel states is that every WP can be considered to be a “symptom of another problem.” As Rittel suggests, problem symptom treatment may only lead to creating bigger problems, and that WPs need more attention on a greater or more “comprehensive” systems approach. The lack of acceptance of a brand doesn’t necessarily merit more solutions. It is better to concentrate energy in uncovering the root causes of its lack of market response.

1.8 Additional consequences
The eighth property of WPs is that “each action that was carried out in response to a wicked problem can be subject to additional consequences over time.” The unintended consequences of any wicked branding problem solution can potentially lead to other problems over the course of the brand’s existence.

1.9 One shot
The ninth property of WPs is that each one is a “one-shot operation” and that solutions cannot easily be undone when implemented. Once a brand is fully launched into the market, it is very difficult to then completely change or remove it without consequences. Such “experimentation,” as Rittel says, is non-existent in wicked problem solving.

1.10 Essentially unique
The tenth property of WPs is that each one is “essentially unique” and that you cannot readily transfer solutions to other similar situations. What may work for one wicked branding problem may not work for another due to the almost infinite number of variables that characterize each individual wicked branding problem solution space.

1.11 Responsibility for consequences
The eleventh and final property of Wicked Problems as stated by Rittel is that, again, unlike a chess game where the losing solution or move has no consequences and no blame, the wicked problem solver must take responsibility for the solutions and the consequences, unintended as they may be. Wicked branding problems and the consequences of their solutions can have devastating financial, economic, and potential socio-cultural impacts across the globe.
2. Moving Towards Wicked Problem Solutions

2a. The Second Generation Systems Approach

Horst Rittel – in his article, “On the Planning Crisis: System Analysis of the ‘First and Second Generations’” – prescribes an approach to wicked problem solving that is garnered by the individuals that are most affected by the proposed solutions. His “second generation systems approach” goes as far as to say “…ask those who become affected but not the experts.” Rittel then goes on to state, “There are no experts (which is irritating for experts), and if experts there are, they are only experts in guiding the process of dealing with a wicked problem, but not for the subject matter of the problem.” His recommended approach marginalizes the knowledge of the “expert” in favor of ignorance that is “symmetrically” distributed over all the stakeholders within the wicked problem solution space.

Applying this second generation systems approach within the wicked branding problem domain would require that brand professionals – designers, developers, and managers – take on a support-only role. Their sole function in the problem solving process would be that of facilitators or “guides.” While, in accord with Rittel, creative professionals should not seek to force their “expertise” or vision of the solution space upon their clients, their taking on a diminutive role does not appear to be advantageous.

2b. The Third Generation System Alternative

There is a need for and great benefit in a wicked problem solutions approach that embraces and enjoins professional expertise. Inspiration for such a model comes from Karl Popper (1963) in his book, *Conjectures and Refutations: The Growth of Scientific Knowledge.* Along the lines of critical rationalism, Popper describes a solution space that is characterized by expert design “conjecture” and stakeholder “refutation.” Popper offers a theory of trial and error – or as he phrases it – a theory of “conjectures and refutations.” Within this framework, conjectures (ideas or theories) are tested to determine if they are either corroborated or refuted by scientific observations. However, while this scientific collection of observations (information) is “always selective,” theory or solution creation does not necessarily have to follow it. Put succinctly, Popper suggests that solutions can, at times, precede observations from the collective – Rittel’s group of participant or stakeholders affected by the solution.
Wicked Problems were the theme of Rotman Magazine’s 2009 winter issue. In an interview published in this edition, Jeff Conklin concludes that dealing with wicked problems is not simply a matter of coming up with the best answer. Rather, it’s about engaging stakeholders in “…a robust and healthy process of making sense of the problem’s dimensions.” Like Popper, Conklin calls for deep dialogue between experts that exercises collective problem-solving intelligence. Here “conjectures and refutations” (Popper 1962) of a wicked problem are mapped into a visual representation in order to induce a higher degree of collective understanding.

Applied to wicked branding problems, a third generation systems approach incorporates elements of the second generation systems approach as laid out by Rittel, but also operates with the understanding that brand “experts” serve the purpose of not only “guiding” the other stakeholders or participants through the problem-solving process but are also responsible for providing theories, ideas, or solutions. These are not necessarily outcomes of the brand expert collective but rather “conjectures” that can be later refuted by observations of other participants who are affected by the solution. In a third generation systems approach to wicked branding problems, the brand professional serves a dual function as both equal and expert participant in the process – charged with providing expert conjectures to the collective for review and criticism by peers who are equally expert in their domains.

2c. Conceptual framework
The conceptual framework for the proposed third generation systems approach to wicked branding problems is based on the interactions between the collective of stakeholders or participants with the experts or brand professionals (see figure 1.0). The principles of scientific observation leading to theory as practiced by the stakeholders are augmented by the conjectures or theories provided by the experts to the stakeholders for refutation. Solutions to wicked branding problems are developed through the process of conjecture-design solution proposal; refutation – corroboration or contradiction of proposals through observation (Popper 1963); and mapping (Conklin 2009).

The core of the conceptual framework is the “map” – a periodic table of brand elements comprised of brand bonding elements. These elements are the basic foundation for the more complex brand molecules that are derived in the wicked branding problem solution space. Both stakeholders (participants) and experts (brand professionals) work together to construct
complex brand molecules based on the molecular weights described in the periodic table of brand elements.

Figure 1. Conceptual Framework

3. Towards ‘The Third Dimension’
While the number and variety of brand elements and the interdependencies between them can make attribute assessments complex, a brand is not an abstract concept, but a compound formed by consumer opinions and experiences that can be studied. The research informed a perceptual map visualizing brand elements and their weights as a periodic branding table.

3a. Periodic table & brand molecules
The objective of the periodic table is a means for negotiating shared understanding and coherent action among brand creators and stakeholders. In the field of chemistry, the periodic table is a highly important and informative reference for identifying what manner of molecules can be formed and how they will behave. Elements are arranged left to right and
In short, the periodic tables act as a keystone in a third generation systems approach to solving wicked branding problems. It can be called upon to guide the development of brand research instruments that better explore the creation of the brand’s bond.

4. Vespa® scooter case studies

4a. Project Background
The data from two case studies of Vespa® motor scooters was used to inform the configuration of a brand periodic table. These case studies employed qualitative and quantitative research approaches to first define what elements consumers associate with a brand and, next, to determine what “element” combinations affect consumer brand behavior.

The Vespa motor scooter brand – owned by the Italian firm Piaggio and Company, S.p.A. – was selected for case study because it represents an international brand with a globally marketed product line, a robust history, and an established customer base. Many Vespa owners are actively involved in brand communities. Participants ranged from 18 up to 79 years of age and were from a wide range of countries.

4b. Method
The combination of research methods employed included: observation, semi-structured interviews, and surveys. Observation took place by participating in Vespa World Days ’09 in Zell am See, Austria – a gathering of 3000 Vespa owners from 22 countries. Interviews were in-depth and unstructured “conversations” conducted one-on-one with participants of the Vespa World Days event as well as Vespa owners in the Phoenix, AZ metropolitan area. As part of the interview, participants were asked ascribe human characteristics to an actual Vespa scooter from a selection of 130 words (Davies et al. 2004, Aaker 1997, Mugge et al. 2008). Two surveys were used to gather information from a broad base of participants. Both consisted of open- and closed-ended questions and posted to the website, ModernVespa.com.
4c. Results

The data was analyzed for patterns and first mapped Keller’s (2003) multiple dimensions of brand knowledge: (1) Awareness; (2) Attributes; (3) Benefits; (4) Images; (5) Thoughts; (6) Feelings; (7) Attitudes; (8) Experiences. Elements were inserted into these dimensional categories based on consumer behavior and branding theories that emerged from an in-depth literature review. For example: Brand thoughts elements included in the periodic table emerge from the work of McCracken (2005) – they are gender, lifestyle, class/status, occupation, time/place, fashion/fad/trend.

The data from the Vespa case studies strongly supports the validity of the categories and elements included in the branding periodic table. Looking at the category of thoughts – interviews from the case study clearly point to the merit of including the element of gender. Participants made hand motions and drew pictures indicating the curves of the back wheel panels and described them as “hips”. The names that participants gave to their Vespas were predominantly those of women. The brand has a gender element – it is female. The existence of the lifestyle element is revealed through the brand influence on owner’s choices on how they work, play, move about, and socialize. The thoughts time/place element is reflected in way the Vespa brand meets the owner’s present contextual needs and also incorporates thoughts of a past time and place. Many participants who owned a Vespa at an earlier point in life attribute present ownership to their personal history with the brand. This time/place element combines with those from the images category of the self I believed I was, self I wanted to be, and self as I believed others saw me. This also connects with the element in the awareness category of locating the product – many Vepsa owners spoke of the thrill of the process of finding a Vepsa just like the one they owned when they were sixteen years old.

Hence, the Vespa brand is posited to consist of a combination of elements that make up the brand phenomena. No one element, such as lifestyle or self I believed I was proved to be the sole catalyst for a bond to occur – instead the elements combined in an integrated fashion as congruent parts of a whole. Hence, the Vespa brand acquired deep meaning for consumers and maturity through multiple interfaces and encounters, which map to the periodic table of branding and expand upon it.
Figure 2.0 Vespa Brand Periodic Table

5. DES Brand Case Study

5a. Project Background
A research project sponsored by the Department of Economic Security (DES) was initiated at a state university in order to begin brand revitalization efforts that would eventually lead to the design of a new brand identity for the DES as well as its implementation in the environmental design of its offices statewide. The DES is a conglomeration of several divisions each with separate and related areas of service, expertise and knowledge in social services. The DES at the time of the project had been plagued by a severe lack of integration and cross-pollination between the various divisions and caseworkers. The goal of the project was to foster internal initiatives towards brand revitalization and optimum facilities design with the hopes of fostering departmental integration, employee retention/recruitment, and to better the overall customer experience of DES clients (the general public).

5b. Methods
The project utilized a mixed method approach where both qualitative as well as quantitative methods were used. Data collection for the project consisted of semi-structured interviews, bilingual surveys, open-ended questionnaires, non-participant observation, and a personality assignment method known as Concept Naming (Takamura 2005). Each research method data set had to be organized, analyzed, and distilled separately into word clusters. These word clusters were later combined through the equivalence of the words down to a final set of words that would later become the final DES brand DNA molecule.

5c. Results
Concept Naming data was used to generate word clusters (see figure 3.0) representing the types of words used to describe the Department of Economic Security’s overall personality. These word clusters were depicted in terms of their relative size, based on the numbers of words within each cluster group. The word clusters were then arranged in configuration, grouping, and proximity that reflected the overall trends in the data.
The word clusters were then translated into a final 3-dimensionalized illustration of the brand DNA molecule (see figure 4.0) again to show the relative positions of each of the molecular elements in the brand as well as to depict the weak and strong forces that exist between them. Due to the complexity of the final DES brand DNA molecule, and in order for the brand design and development team to virtually experience the 3-dimensional molecular positioning of the brand personality elements, an actual 3-dimensional virtual model was developed and a short animation was produced (see figure 4.1). Once completed, final DES brand DNA molecule functioned as a filter for all design ideas. The DNA molecule acted as a foundation on which to develop the DES identity as well as the lobby design of DES offices.

Figure 4.0 Department of Economic Security Brand DNA Molecules
6. Brand creation implications

Post-modern society finds individuals are engaged in an ongoing effort of negotiating meaning from lived and meditated experiences as a means to create and sustain identity – and brands are being called upon as negotiators (Swaminathan et al. 2009). Fournier (1998) demonstrates that consumers form a bond with the brands whose meaning is helpful to living his or her life. If this is the case, the challenge is to deeply understand the multiple elements and dynamic nature of the bond between the brand and the consumer.

In the past, brands were viewed as information and brand managers were the gatekeepers of knowledge and understanding (Keller 2003, Keller & Lehmann, 2003). Now a technologically empowered marketplace has shifted the power base to consumers, and brands themselves have moved from merely a means of simplifying heuristics to sociopolitical ideology statements (O’Guinn & Muniz, 2004). Allen, Fournier and Miller (2008) summarize the emergent view of brands as dynamic and co-created entities. Brand meaning is derived from the brand’s context and is neither constant across individual consumers nor inherent to the product. Brands are not formulated by marketing executives or creative directors, but are dynamic entities whose evolution is co-mingled with consumers and cultures. Hence, a third generation approach that engages experts and stakeholders has important relevance for a world that is waiting for solutions to wicked problems.

5c. Product design and brand strategy implications

The ultimate success of a brand is through the special relationship or bond that it forges with consumers. The ways in which these consumers relate to and interact with the brand both determines and is determined by what the brand means to them individually.
A brand is not an abstract concept, but a compound formed by experiences. It becomes, like a molecule, built up over time by successive and connected ideas (Grant, 2006). Brands are more like organisms than organizations – shifting, growing, dividing and combining as needed. They are not a stylistic veneer, but a pattern that grows out of characteristics (Neumeier 2006).

The associations consumers make with the brand determine the value of that brand. These associations are important in creating a brand bond and companies should target identifying and optimizing the attributes contained within associations (Keller 2003). At the top of many a CEO’s wish list is (or should be) a view into the heart and mind of the consumer – clear insight into what truly influences brand purchase decisions. This is becoming increasingly important in a world that has moved from mass marketing to mass customization – characterized by an awake and aware consumer (Keller 2003).

Companies often do not know how to engage their audience authentically. They are smart, sometimes scarily so (tobacco companies), but they are not able to answer the most important question – why consumers make the brand choices they do. What are they really thinking? More than 156,000 new products debuted worldwide in 2005 – the equivalent to one new product release every three minutes – yet in consumer products alone, 52 percent of all new brands and 85 percent of individual products fail.

6. Conclusion
In response, Keller (2003) also calls for an understanding of how “various (brand) entities” should be best combined to create optimum positioning. An important research challenge is to form a holistic perspective toward brand knowledge that encompasses a full range of approaches to create and apply detailed brand mental maps. The periodic table of branding and brand DNA molecules are such mental maps – serving as a blueprint of knowledge, providing a depth and breath of understanding into consumer thought and behavior, and a means to an end to wicked branding problems. So wicked problems beware! We now have a Third Generation Systems Approach to solving you.
7. Bibliography


