

## Managing Successful Innovation from Inception to Launch: A local Case Study in China

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**[Abstract]** Innovation is a big buzzword in China in recent years. However, there is quite few innovative products in the market. Part of the issue is due to lack of innovation capability, and part of the issue is the lack of innovation process. The authors suggested an easy-to-implement process of product innovation and have implemented in different companies. This process includes four major steps: Insight; Ideation; Conversion; Diffusion. This article intends to articulate the process and introduces the key elements for installing the process. The process is explained through a case study of a product launched in December 18, 2016, by a local home appliance manufacture, Haier Corporations.

**[Keywords]** Innovation; electrical water heater; insight; idea; concept

### Introduction

Innovation is a hot buzzword in China. Every corporate leader, government official, professor, etc. is talking about innovation. And the central government has invested a lot of resources in innovation. In most industries, innovation is the engine for sustainable growth, and the stock market responds rapidly and positively to announcements about innovation (Sood & Tellis, 2009).

However, when we take a closer look, it is a different situation. Innovation is easy to talk about, but hard to do. The Product Development Management Association Best Practices Study (Barczak, Griffin, & Kahn, 2009) found that among the vast variety of commercialized products, only about 59% were successful. When we investigate the existing innovation, there are no many innovative products in the market. While the essence of innovation is recombining existing elements (Schumpeter, 1934), it is important to point out that this process is done through a certain series of different activities in a network context, including information flow, idea generation, prototyping, implementation, etc. (Pittaway, Robertson, Munir, Denyer, & Neely, 2004).

This makes innovation a complex process (Rogers, 2010) Apart from that, consistency is a big problem. Bankvall (2011) suggested that the creation of “meaningful wholes” depends largely on how these activities are coordinated. How should we coordinate the activities and institutionalize the process? This article provides a practical perspective.

### The Four-Step Product Innovation Process

Existing research on product innovation process to date offers interesting insights, and the main concepts include Stage-Gate process, Design Thinking process and Lean Startup process. Stage-Gate process is the most structured and widely used process in the innovation practitioner community. The Stage-Gate process consists of distinct stages separated by gates (Cooper, 2008). In the “stages”, different activities are carried out, such as customer research, idea generation, prototyping, etc. While the gates are the decision points where people reach a consensus about whether to continue or kill the project.

Design thinking became rather popular in the past few years. It originates from the discipline that designers use to think and work to solve problems. The key concepts of design thinking include defining the key problem; understanding the deep needs of users; iteratively improving workable solutions; and synthesizing the user’s needs with what is technologically feasible and economically viable (Brown, 2008).

The lean start-up concept was introduced by Eric Ries (2011). It is a methodology and process to understand needs, generate ideas and prototype in a most efficient way, which is a synthesis of agile development and the innovation process. The speed of iteration is most important for startups, so the fast

loop of seeing, thinking and doing is the core for lean start-up process (Blank, 2013).

Most companies select at least one of these three kinds of processes as the framework for innovation. These processes themselves are also evolving towards incorporating some elements from others. For example, Stage-Gate process has been adapted to be used with design thinking and lean start-up, etc. (Cooper, 2014). With 10 years of practicing various kinds of innovation processes, the authors established a practical version of the process, which include four steps: Insight, Ideation, Conversion, and Diffusion. This is adapted from the design thinking process with more emphasis on the Insight phase.



Figure 1. The Four-Step Innovation Process

### Step 1: Insight

The authors suggest that insight is the core part for innovation. While for different people, the word “insight” has very different meaning, for us insight is defined as the knowledge about underlying patterns, laws, and structures that could inspire new possibilities. In the early stage of innovation, it is like walking in a very dark cave. People often don’t know where to go and what to do. So, insight is the flashlight that illuminate the cave.



Figure 2. The analogy of Insight

We further categorize insight into 3 types: Foresight; Technical Insight and Customer Insight. Foresight is the light of future, which is the deep knowledge about the future trends; technical insight is the light of technology, which is knowledge about how technologies will evolve in the future; the customer insight is the light of humanity, which is the knowledge about customer needs.

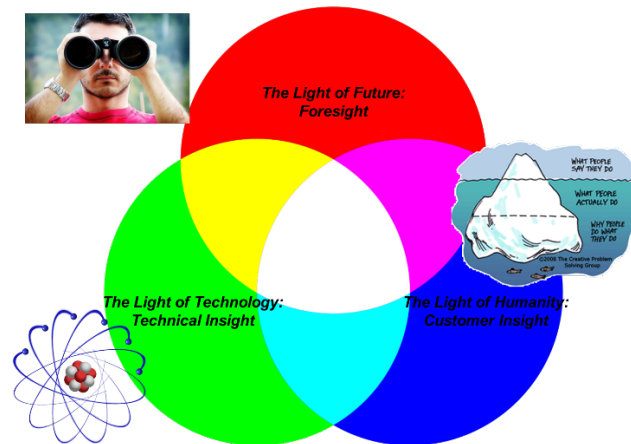


Figure 3. Three types of insight

### ***Step 2: Ideation***

The ideation is the step of processing insights, combining insights and produce new ideas. In our understanding, an idea is the combination and application of one or more insights. So, in these step, we generate a lot of ideas and try them until we are quite confident about our value propositions, and our solutions.

### ***Step 3: Conversion***

The conversion is the step of validating the value propositions, and convert ideas into products. In this phase, we have two major tasks: making sure what we understand about the customers is correct; making sure that we are able to create the product.

### ***Step 4: Diffusion***

The diffusion is the step of promoting the products to the market. It is mainly about articulating values and make sure the target customers really get the point. To further explain this four step process, we herein use a real project to introduce the details.

## **Case Study Background: Haier Electrical Water Heater**

Haier is a famous home appliance manufacturer. In the electrical water heater market, Haier kept in top 3 brands in the past years. In this case study, the authors participated as an innovation expert to teach the team how to define the future insights, the customer insights, and turn them into ideas, and then develop a new product based on these ideas.

Ten years ago, the mainstream product value proposition in the market was about safety and price; 5 years ago, the mainstream value proposition was about energy-saving and fast heating; and Haier was always keeping abreast of the best. 3 years ago, with the rise of health awareness, consumers began to pay attention to bathing water quality, so different players launched various products. Haier also had its "Clean Water Bathing" series products. In 2015, a competitor introduced a new product concept, i.e. "Running water brings you good health" and occupied part of the market share. "Running Water" is not a competitive technical solution, but a marketing concept. To promote the company's brand position in the high-end water heater market and to build a fence over competition, Haier hopes to introduce a best-selling high-end electrical water heater. The challenge was mainly about how to create an innovative product and how to increase market share.

### Insight Phase

After careful studies of the macro market environment, we found that several macro trends will most probably intertwine and have huge impact on the market: *Consumption Upgrade (From Quantity to Quality); Increasing Awareness of Health; More kids due to the state policy; and the rising power of women.* Because women will play a key role in family budget decision, women make quite a lot of decisions based on babies, especially the healthy growth of babies. For them, especially the younger group, they are willing to pay more money for better quality. Based on the analysis, the argument is that the future key battlefield will be the middle and high-end market, and women aged 25-35 will be the most important consumer group for the market of electrical water heaters. Then we started to study the group of young women aged 25-35, and we found that they have something in common.

Here is a description of the persona of this group:

*Basic situation:* Mrs. Ho is a 30-year-old white-collar female with a bachelor degree, who has a 3 years old boy. The annual income of her family is 20W in RMB.

*Character:* Mrs. Ho is curious about new things. She has a group of female friends and they exchange a variety of information every day. She has very good relationship with her husband and has a happy family. She makes most of consumption decisions for her family.

*Behaviour characteristics:* Mrs. Ho loves her family and she consider herself as a manager of family health, nutrition and hygiene. Therefore, she has purchased many household electrical appliances to keep her house clean, which includes air purifiers, disinfection cabinet, water kettle and so on. She pays attention to parenting news and take a great care of her baby boy. In addition, she pursues the quality of life, but she has very limited time for that.

Then we started to visit consumer homes and observe how they use water heater. Here is a typical story I have been experienced with a consumer.

This lady is a 28-year-old housewife with a 3-year-old boy. She is slim, and keeps fit. After we arrived at her home, we started to chat about lifestyle and how she uses water heater. She does not enjoy bathing at home, and in most occasions, she takes bath in gym. However, she has to help her boy take a bath every day. When I asked her “What is a good electrical water heater in your mind?”, Her answer sounds quite strange for me. She said, “If there will be no problem even when we drink the water, then it’s a good water heater.” I was quite curious, “Why do you drink the water from water heater?” “No, no, no, I don’t drink it. My baby boy does. Because he plays with water and splash water when during the bath, so water enters into his mouth and eyes.”

At this moment, I soon understood what the most important is for women: water quality that keeps them free of worry. And this story repeated and again whenever we make a visit to consumers.

### Ideation Phase

Then we prepared some product concept and communicated the value proposition of “drinking level water quality” with more than 30 target consumers and validated this finding. See Figure 4 as an example.



Figure 4. Product Concept Produced After Market Research

So here we found an insight from the female consumers: water quality that keeps them free of worry. Then we further studied this issue and we found that when we talk about water quality, consumers cannot tell what is good, and what is bad. So, we did a further study to understand what part of water quality could be perceived by consumers. In water, there is chlorine, bacteria, heavy metal ion, calcium ion, magnesium ion, etc. We found that what consumers could tell most about the water quality is scale. Because people use water kettle every day, and they know about scale, they can see it on the shower (See below figure). But they could not tell bacteria, chlorine, and heavy metal ion.



Figure 5. Scale on Shower Perceived by Consumers

### Conversion Phase

So, we pick the function of de-scaling as a key function and the amount of scale in water as a key parameter. Then we did a further study with 50 consumers to verify whether this is accepted by them. We compared the previous product concept and the new product concept and confirmed that de-scaling is a value well received by consumers. Then the R&D team from Haier started to design and develop the products. After several months, the product is ready to launch to the market. They developed a product featured with 80% scale reduction, and the value proposition of this product is “clean water that protect your baby from scale.”

### Diffusion Phase

In this phase, we begin to study how we could articulate the value of the product. Based on the consumer insight, we decided to focus on how we could keep the moms away from health concerns: Even if the water split into the baby’s mouth or eyes accidentally, the mom does not have to worry about it. See below poster that convey the message.



Figure 6. Advertisement that convey the value proposition of the product

Also, we started to think about how sales executives in the home appliance stores can explain the values to consumers. According the insight we gained in the insight stage, we suggest the sales team to explain that this product is designed for babies, and moms don't need to worry about the water quality.

**Business Results**

The product was launched to the market on December 18, 2016. It is a high-end product selling at the price of 5000-6000 RMB, while the average price of this market is 1500-2000 RMB. Because the product is targeting the MPV, it was well received by the market. In the first three months, it was sold more than ten thousand units. Compared with competitor, this product is the only one that targets the mom of babies. With Haier's already very good reputation in the market, it further enhanced the brand image. Also, because we have planned for future technologies based on engineering system evolution, it has opened a new path for follow-up product strategy, and thus is very good for future competitive advantage.

**How to Implement the Process**

To implement the process, we should not only promote the usage of the process, but also enhance the capability of the team. The key capabilities related to the innovation process include insight, creativity and implementation capability. When we implement the innovation process, there is a dilemma. Because it is a new process, normally it requires a dedicated team. To have a dedicated team, people need to have accumulated experience. But since its innovation, it is new to the team. So, the best way is the implement the process, train the team and carry out innovation projects at the same time.

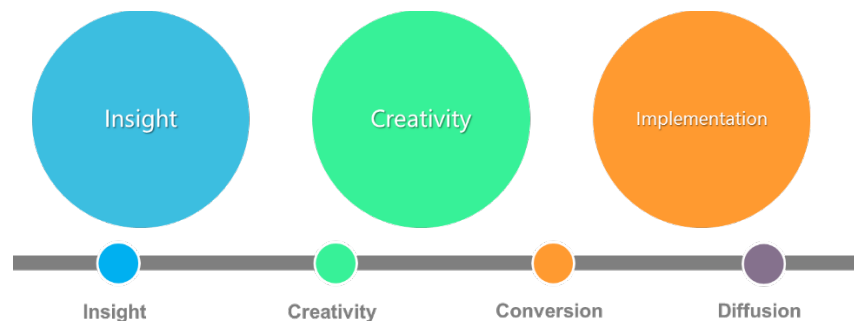


Figure 7. The key capabilities linked to the innovation process

We use a three-in-one approach to make it happen. When we implement a process, we normally combine training, coaching and facilitation together to create innovative products with customer. See below figure of the innovation process.



Figure 8. The methodology to implement the innovation process and build innovation capability

### Discussion

In this case study, we explained a step-by-step innovation process, which is more systematic and practical for product development practitioners. We identified insights through trend research and consumer research, combine the insights into ideas, and then turn ideas into product solutions. In the case study of Haier electrical water heater, we explained how this process is used in a real project. Also, we introduce an innovative approach to help implement the innovation process.

However, there are a few issues that need to be addressed in future research. The first question is about whether we have a quantitative way of identifying customer insight. Because the authors use an in-depth approach of consumer interview, it is not possible to investigate a vast number of consumers. Although in later stages we validated the findings through further consumer research, we need a more systematic way to generate more data for decision-making. The second question is about the idea generation. Different ideas are generated based on different insights, however, there is a lack of guideline for selecting the right insight, and generating the right idea. In conclusion, this paper introduced a new process for product innovation. It is straightforward for innovation practitioners, and it has gained evidence through real innovation product performance.

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