STRATEGIC INNOVATION

A perfection of means, and confusion of aims, seems to be our main problem
Albert Einstein

INTRODUCTION: Not All Innovations Are Born Equal

As a method of creating value, innovation can be applied to virtually any type of corporate activities. For example, in his seminal book "*The Theory of Economic Development"* (1934), Joseph Schumpeter mentions the following types of innovation: product, method of production, sources of supply, markets, and way to organize a business. Naturally, when it comes to the need to produce growth and outsmart the rivals, all of these types of innovations are actively used. However, based on the real-world data (for example, the Global CEO 2006 Study conducted by IBM; see the Figure 1), different types of innovations tend to produce different returns.

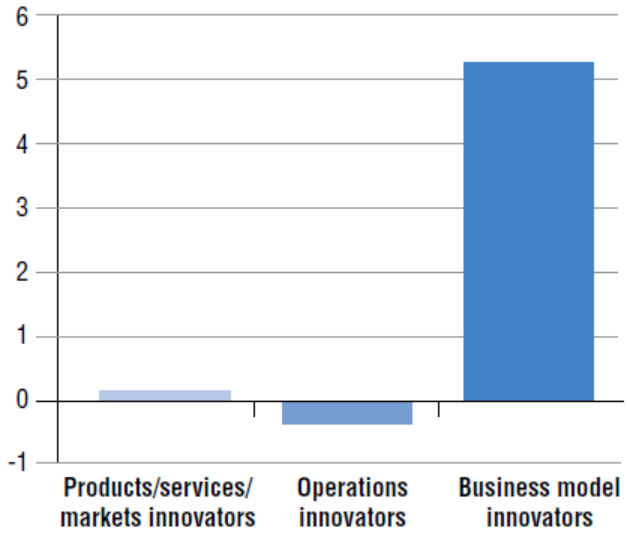


Figure 1. Operating margin growth in excess of competitive peers

Since generation and sustenance of growth is the primary objective of any commercial enterprise, the General Theory of Innovation (GTI) places these growth-fostering innovations into a separate class of "Strategic Innovations". The purpose of this article is to present GTI perspectives on the subject of Strategic Innovation as well as the GTI approach to their creation.

PART 1. Strategic Innovations Defined

Before getting any further with our discussion, let us first define Strategic Innovations to avoid any potential confusion and misunderstanding. Within GTI, strategic innovations are defined as the ones that enable creation or sustenance of strategic advantage, which subsequently results in achieving a higher business goal such as growth. The Figure 2 below shows a few examples of strategic innovations in the minivan market segment as well as subsequent growth in the market share of their creators.

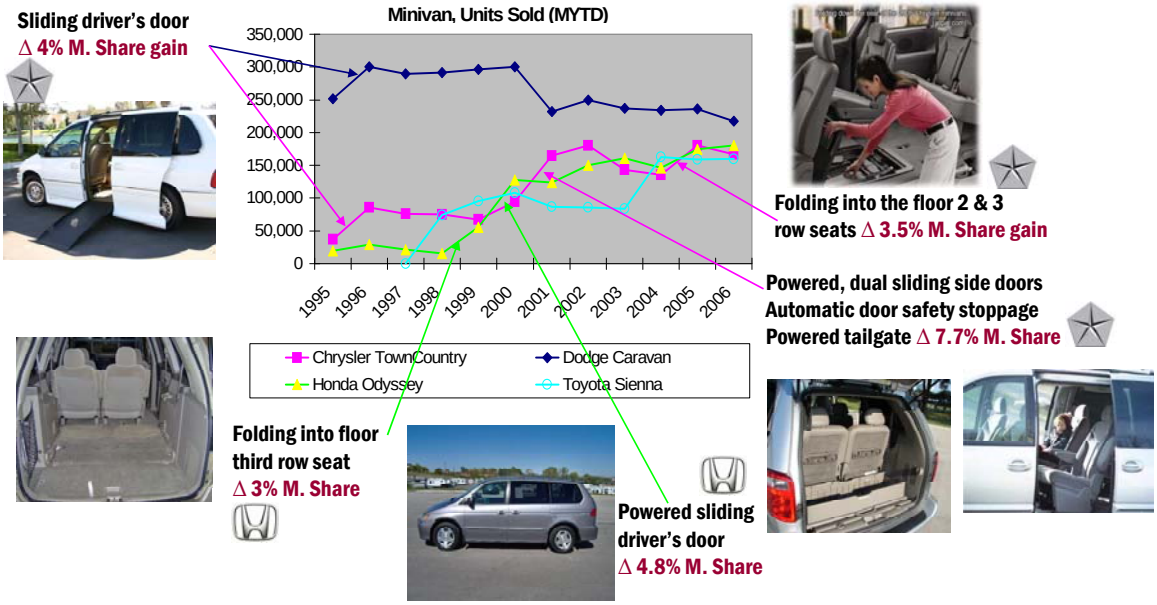


Figure 2. Growth in the market share of minivan's producers due to introduction of strategic innovations

Specifically, Chrysler's introduction of sliding door on the driver's side in 1995-year model led to an increase of its market share by 4 percent within one year after introduction. Honda's market share rose 3 percent in 1999 after Odyssey introduced the folding-into-the-floor third row seats in the 1998-year model and additional 4.8 percent in 2000 after introduction of the powered driver's side sliding door in the 1999-year model. Incorporation of three innovations (powered dual-side sliding doors, automatic door stoppage as a safety feature, and powered tailgate) in the 2001-year model increased Chrysler's market share by 7.7 percent. Finally, introduction of the "Stow-and-Go" folding-into-the-floor 2nd and 3rd rows seats in the 2005-year model increased Chrysler's Town and Country market share by 4.3 percent.

While competitors annually create and introduce literally hundreds of innovations in every single market segment, only a very low percentage of them are able to "impress" the customers so that they grant preference to an offering that is significant enough to create its creator's financial growth resulting in redistribution of wealth and power between the competitors. To harness this seemingly unlimited power of Strategic Innovations, we must understand what separates this type of innovations from the rest of the pack, what makes them capable of capturing the market's attention, admiration and… money.

PART 2. The Key to Unlocking the Power of Strategic Innovations

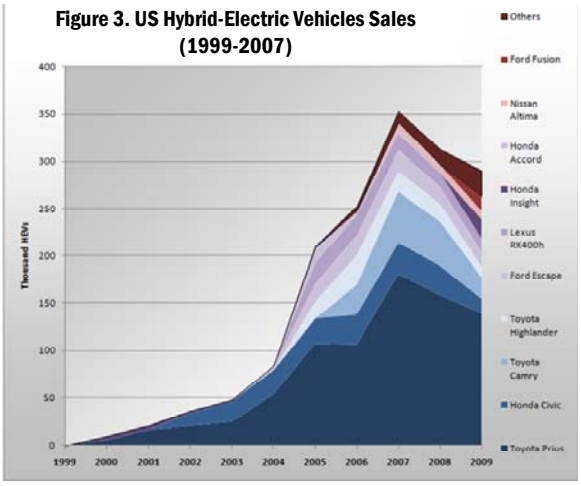
As the original marketing guru Ted Levitt famously said, "People don't buy a quarter-inch drill bit, they buy a quarter-inch hole." Indeed, the majority of customers do not much care about how a product or a service works; they are interested in a result of that work, which surely includes the consequences of getting to the result. If anyone questions this concept, ask yourself if you are truly concerned with a brand of the word processor I

used to write this article, with the layout of my keyboard, with the cause-effect mechanism transforming movement of my fingers in the appearance of letters on my screen. Alternatively, I am confident that you are mostly interested in the quality of this article and in its promise to deliver new insights about the Strategic Innovations. In other words, you (the customer) buy the perception of Value, and among many competing alternative offers, the one that is perceived to deliver most has the greatest odds of winning your preference.

Now, let us consider what Value is, according to GTI. Without providing the precise definition, Value reflects how good a proposed solution to a customer's problem is. As it is clear from this quasi-definition, Value has two major components: a problem and its solution. Since in the process of creating an innovation, the problem identification and formulation precedes the development of solutions, GTI unequivocally states that problems are more important than solutions. Moreover, as it comes to the creation of Strategic Innovations and subsequent growth, identification of the "RIGHT" Problems is a pre-requisite. Examples abound.

A. After listening to customers' complaints for years, Blockbuster (a movie rental chain) canceled the "late fees" in 2004 (nothing could be more perfect, as this solution eliminated the problem), but it did not help with fighting ascendance of Netflix, whose business strategy and business model were superior.
B. Marketing research identified many customers' issues related to light trucks and SUVs, and the US car manufacturers (e.g. GM and Chrysler) diligently tried to address them and provide solutions. However, when the gas prices reached $4.00 per gallon (a very high price for the US market), no solutions mattered, as the customers started buying more fuel-efficient cars, including hybrids. Indeed, a perfect solution to the wrong problem creates no Value but only waste!

Figure 3. US Hybrid-Electric Vehicles Sales (1999-2007)



On the other hand, as our research shows, even an imperfect solution to the RIGHT Problem creates growth. The simplest example would be the hybrid car, which addresses an important problem through increasing complexity resulting into a premium price. It takes 5 to 10 years of ownership to return the money spent initially, and the majority of customers in the US do not possess cars for that long, which was GM's and Chrysler's justification for not embracing this innovation. However, with the price of gasoline going up (due to various causes, including inflation) and with the customers becoming more sensitive about the Environment, the hybrid vehicles survived the pressure coming from the traditional powertrain cars, their sales started growing (Figure 3), and they are here to stay.

Furthermore, every "RIGHT" Problem possesses two characteristics: Uniqueness and Meaningfulness. Uniqueness surely helps with leaving competition behind while Meaningfulness of the problem facilitates market's appreciation of a proposed solution and its speedy adoption. For example, introduction of angioplasty technology (by Dr. Charles Cotter) to preventing heart attacks contains both aspects of the RIGHT Problem, as prevention of blockage (with potential for heart attack or stroke) is better than a surgery after the fact, which makes it meaningful, while uniqueness was assured by the fact that no commercial company did anything similar. It comes as no surprise that introduction of this pioneering innovation produced phenomenal growth, as a new market segment was created.

We need to emphasize the notion that both characteristics of the RIGHT Problem (i.e. Meaningfulness and Uniqueness) are equally important for increasing the probability of growth creation. On the other hand, pursuing the problem that lacks any of these components will jeopardize the targeted result. For instance, invention of a parachute (by Leonardo) was not adopted by the market during his lifetime because the problem it solved (saving a human jumping from heights), while being unique, was not meaningful at the time. We can provide multiple modern examples of innovations (with Segway by Segway, Inc., Purple Ketchup by Heinz, Blue and Clear Pepsi by PepsiCo, etc.) that, despite multi-million dollar expenditure on marketing research, failed after the introduction because the problems they pursued failed to be meaningful.

Finally yet importantly, it is highly unlikely that the "RIGHT" problems would be identified through traditional means of interviewing the customers (clinics, focus groups, etc.) because in most cases the customers simply do not know about them and/or do not consider them being problems. If the opposite were true, and customers were in the position to verbalize clearly their "strategic" concerns, every competitor would know about these problems, thereby making them not unique. For those who believe that the inability to identify the "RIGHT" Problems is based on our inability to interpret the Voice of the Customer correctly, we have to point out at the fact that interpretation, as a process, is very subjective and, therefore, is not robust, which makes it prone to failures. We can conclude that proactive identification of the unknown/unspoken customers' needs is the entity's responsibility. If history is any guide for us, every true market leader ALWAYS leads their customers instead of following them. As the late Steve Jobs (Figure 4) said, "You can't just ask customers what they want and then try to give that to them. By the time you get it built, they'll want something new."

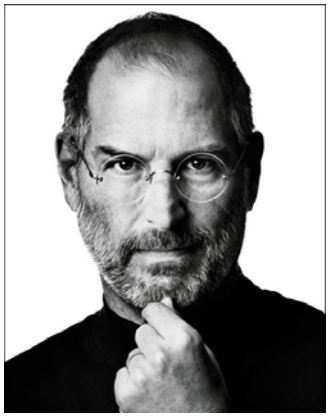


Figure 4. Steve Jobs

PART 3. Strategic Innovations On Demand – The Science-Based Approach

In the previous article of this series, we presented the major premise of the General Theory of Innovation (GTI) that states that the evolution of man-made systems is not random, and it has a predominant direction, which was confirmed through our 23-year rigorous research into the history of business successes and failures. We also stated that knowledge of these meta-patterns governing the overall process enables advanced identification of the challenges that entities and their market offerings will face in the future. This predictive capability results in identification of the "RIGHT" Problems when the customers do not talk about them and constitutes the foundation of GTI-based structured methodology for creating Strategic Innovations, which is called the "Design for Advantage™" (DFAd™). While a detailed presentation of the DFAd™ is indeed impossible within the boundaries of one article, we would like to present the methodology major phases as well as their short description. Additionally, to illustrate how the DFAd™ works, we provide a small fragment of its real-life application (1998) to creating Strategic Innovations in the market segment of automotive safety devices that is deliberately simplified for the purposes of this publication.

STAGE 1. "Model the Customer's Experience Challenge"

The purpose of this stage is to develop in-depth understanding of customers' challenge, for which an entity offers a solution through its product or service. In other words, if customers buy drill bits to create holes, we have to understand why they need these holes. To achieve this objective, we build a model (a specialized flowchart) of the process that customers experience while pursuing a Goal of their choice that also leads to emergence of the challenge that is linked to the Goal through a network of "cause-effect" relationships. The model always includes a "Positive Branch" (green elements) representing the intended process that ends with reaching the Goal and a "Negative Branch" (pink/red) that represents negative / undesired consequences of the choices made by the customers to achieve their Goal.

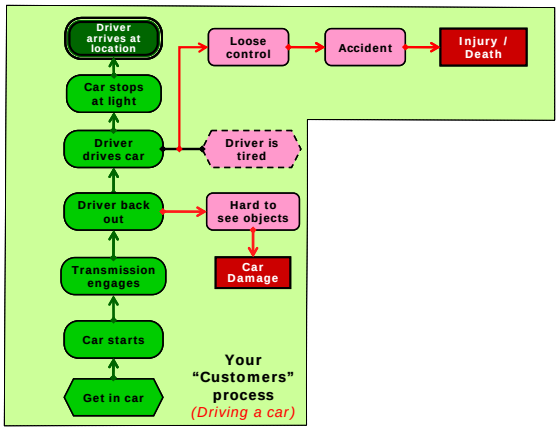


Figure 5. Stage 1 of the "Design for Advantage" Methodology

The example (presented in the Figure 5) depicts the process customers experience while driving a vehicle, which starts with the event of getting into the car, ends with reaching the goal of arriving at the point B (dark green), and shows the events that connect the two. The model also contains a "Negative Branch" (pink/red) depicting a couple of undesired scenarios that happen under specific conditions. For example, the condition of driver's tiredness combined with high speed of movement (our choice of the transportation mode coming from the Positive Branch) leads to the loss of control over the vehicle, to an accident, and to its consequences such as loss of property/injury/death.

STAGE 2. "Model Solution-Based Value Creation Process"

The purpose of the second stage is to develop in-depth understanding of how competitive solutions address the Challenge thereby creating Value for the customers. To achieve this objective, we augment the Customers-based process with flowcharts representing competing offerings that are built based on the same set of rules.

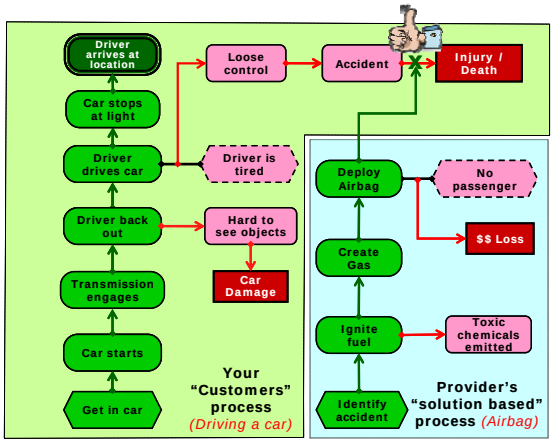


Figure 6. Stage 2 of the "Design for Advantage" Methodology

In our example (depicted in the Figure 6), the chart shows the sequence of intended events leading to airbag deployment ("Positive Branch") that breaks the "Negative Branch" of the customer-based process thereby addressing the Challenge. Of course, any solution-based process has its own negative scenarios that stem from the choices made for realization of both intended processes. For example, burning fuel that is required for creating pressure that deploys airbag also create toxic chemicals as well as possible burns due to high temperature of the gas, which hits the driver's face. If different competing solutions deliver the sought Value differently, we introduce multiple models representing alternative solutions.

STAGE 3. "Identify Strategic Voids (The 'Right' Problems)"

Not only does the completed model provides great insights on how competing offerings create Value for the customers (this is why it is called the Value Creation Map), but also it enables identification of available Strategic Opportunities (or Strategic Voids) and subsequent formulation of the "RIGHT" Problems for analysis and solution, which was the primary purpose of creating the model.

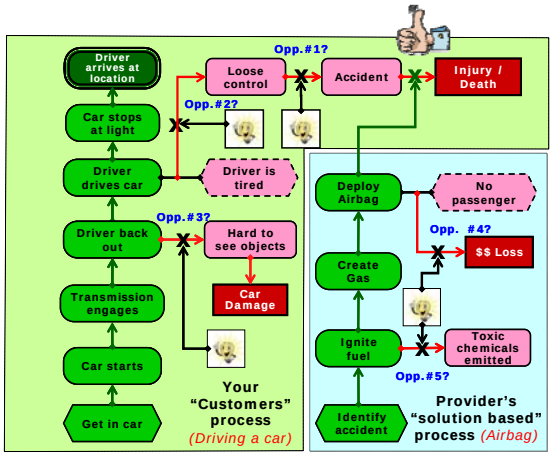


Figure 7. Stage 3 of the "Design for Advantage" Methodology

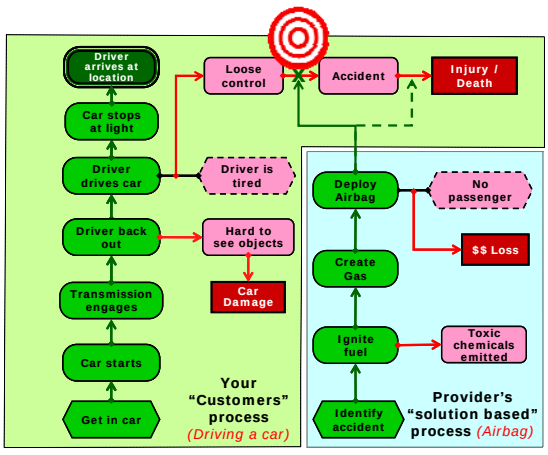


Figure 8. The "Moving the Value Event" Strategy for ID the RIGHT Problems

Despite the fact that the constructed model represents a simplified situation, it contains at least 24 problem statements that can be formulated as a result of the analysis that is based on rules derived from GTI. A few opportunities are shown in the Figure 7.

However, not all the problems are strategically equal, and pursuing a wrong problem will improve the product but will not provide the competitive advantage. GTI provides six different strategies for identifying the RIGHT Problems. For the purposes of this article, we will consider just one of them called "Moving the Value Event toward the Goal". The strategy essence is perfectly reflected in its title. According to this strategy, the "Negative Chain" (in our example) should be broken not after the accident but prior to the accident (Figure 8). In other words, we can formulate the following problem statement: "What can be done to prevent the Negative Event from emerging even though the driver lost control over the vehicle?"

As our research shows this Strategy is very potent. There are many examples that validate our findings: for example, prevention of a heart attack (angioplasty), which created a new market segment and growth for many companies vs. treating its consequences (surgery); preventing loss of direction while driving (GPS) vs. dealing with its consequences, etc. Therefore, assuming that no accident prevention solution exists currently, solution of this problem would provide the producer with the edge. In 1998, when the project was conducted, no car manufacturer provided a solution for this problem.

Stage 4. Create Growth Platforms

The purpose of this stage is to develop a conceptual solution for the chosen "RIGHT" Problems. GTI provides robust processes and multiple tools (such as The Situation Analysis Technique, Problem-Solution Templates, the Algorithm for Conflict Elimination, etc.) to achieve this objective. Identifying and filling a Strategic Void typically represents a major development in the evolution of a product/service (as a Unique Problem was solved), and it typically results in the creation of a new system/sub-system, which will evolve further producing multiple solutions in the future. This is why we term a newly born system a "Growth Platform".

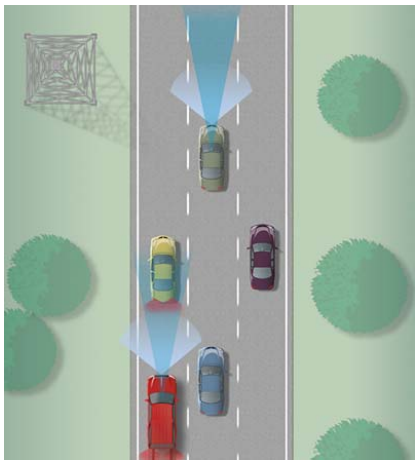


Figure 10. The Concept of Car Active Safety system

In our example, the accident prevention problem leads to the development of a concept of on-board system of radar sensors (Figure 9) that continuously "monitor" the vehicle environment, register all the changes, and send the information to the car "brain", which in turn actuates corresponding sub-systems.

Stage 5. Create Strategic Innovation Portfolio

The purpose of this stage to create Strategic Innovation Portfolio (Innovation pipeline, a cluster of innovations) by further developing the concept obtained at the end of Stage 4. To achieve this objective, we need to apply the exactly same procedures and tools that

were used during the previous stages. However, this time they are applied to the concept of Growth Platform.

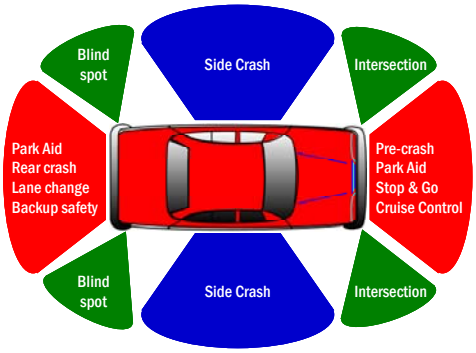


Figure 11. The "Active Safety" Strategic Innovation Portfolio

In our case study, for example, we can develop multiple applications of the concept of active safety system such as smart cruise control, automatic brakes actuation, Stop & Go, side crash, park aid, lane departure warning, and others that are partially depicted in the Figure 11.

Some of the readers can point out at the fact that overall concept of active safety as well as mentioned applications are well known and even implemented into many contemporary vehicles. It is true, and we do agree, but the matter was different in 1998. This means that real-life evolution just confirmed the validity of GTI logic and the power of its tools that were capable to identify the future developments in the automotive industry with great precision, which brings us back to the beginning of this article and the challenge of creating and sustaining growth.

The predictive capabilities of the General Theory of Innovation enable ANY enterprise to skew the odds of growth creation in its favor (specifically, from 1 percent probability to 59 percent probability), which represents decisive competitive advantage comparing to the uninformed opponents. For the very time, we can beat the trend of growth cessation, and the science of innovation will lead the way.

KEY "TAKE-AWAY" POINTS

- Not all innovations are born equal; strategic innovations enable creation or sustenance of strategic advantage resulting in financial growth for their creators.
- According to the General Theory of Innovation (GTI), problems are more important than solutions, as a perfect solution to the wrong problem creates no Value, while an imperfect solution to the RIGHT problem still creates growth.
- There are two ways to create strategic innovations: a) to develop a unique and advantageous solution to a known problem and b) to develop a solution to a Unique and Meaningful problem, aka the "RIGHT" problem. While the overwhelming majority of companies pursue the first way, the risk of a failure is much higher. The second way has much greater probability of success.
- Communicating to the customers does not enable identification of the "RIGHT" Problems, which is an entity's responsibility. The history shows that market winners always lead their customers by identifying the "RIGHT" (Unique and Meaningful) Problems and delivering solutions for them, thereby exceeding the customers' expectations, which leads to the "Wow!" reaction and growth.
- Through the GTI predictive capabilities embedded into the Design for Advantage™ methodology, it is possible to pinpoint the "RIGHT" Problems in a systematic, robust, and objective manner.