

A black and white photograph of a person's silhouette on the left side of the frame, looking through binoculars. The background is a vast, cloudy sky. The text 'IV.' is overlaid on the person's silhouette.

IV.

Observe & Learn



STEP 2: OBSERVE & LEARN

An essential part of being innovative is to start viewing things differently. You have to detach yourself from your own existing thought patterns and habits. Albert Einstein taught us: "If you always do what you always did, you will always get what you always got." So, you need to gain new and refreshing insights. That is why this second step in creating new concepts is so extremely important. Observe & Learn illustrates how you can explore innovation opportunities, trends and technology and how you can discover customer frictions among the target groups. It also shows how you can share your findings among the ideation team in an inspiring way. The entire process takes about six weeks and is the second step of the ideation phase.

FORTH Activity 4: Exploration Preparation Workshop

This workshop is meant to get each member of the core team geared for action. In this workshop you have the team make their final preparations with checklists and formats so they are well equipped.

FORTH Activity 5: Exploring Trends & Technology

We start by exploring promising trends and technology relevant to the domain, theme or markets of the innovation assignment. This should increase the team's awareness of the bigger picture. The relevant trends and technology can be traced and assigned a role during the brainstorming sessions in the next step.

FORTH Activity 6: Discovering Customer Frictions

A fundamental question is: what are the needs of potential customers? In this step you can use two very effective Voice-of-Customer techniques: meeting with the customer in person and finding out the frictions of the customer with the help of focus groups.

Customers' current behavior and the visible difficulties they experience offer an excellent source of inspiration. In this stage all team members visit customers to gather their own impressions of the customer, his or her concerns and experiences.

Focus groups are a type of qualitative research whereby groups of customers are interviewed by a facilitator. The core team members are present only to listen and observe closely. Directly following the interviews they discuss the situation of the target group and its relevant needs and frictions. One focus group is assigned to each target group.

FORTH Activity 7: Exploring Innovation Opportunities

During the Kick-Off activities, innovation opportunities have been generated and adopted by the core team members. In this step core team members will explore their innovation opportunities. They contact selected groups outside the business as sources of inspiration and visit each one individually. They investigate best practices and search for valuable ideas from other people or companies. Their findings are shared for evaluation in the Observe and Learn workshops.

FORTH Activity 8: Observe & Learn Workshops

The members of the core team go on a six-week hike where they gather new impressions and share them with one another and the extended team members in four Observe and Learn workshops. During the last Observe and Learn workshop they choose the most promising innovation opportunities and customer frictions. These will then be put under the spotlight alongside the promising trends and technologies during the brainstorming session in the next step.

By the end of the second step the ideation team is really inspired, having discovered promising and relevant customer frictions and innovation opportunities.



**GO TO THE FORTH WEBSITE
AND DOWNLOAD THE FOUR
PRACTICAL CHECKLISTS OF
THE STEP OBSERVE & LEARN**
([www.forth-innovation.com/forth-steps/
observe-and-learn/](http://www.forth-innovation.com/forth-steps/observe-and-learn/))

FACTSHEET STEP 2

Duration	6 weeks
Activities	<ol style="list-style-type: none"> 1. Explore Preparation Workshop 2. Exploring Trends & Technology 3. Discovering Customer Frictions 4. Exploring Innovation Opportunities 5. 4 Observe & Learn Workshops
Deliverables	<ol style="list-style-type: none"> 1. Best customer frictions 2. Best innovation opportunities 3. Open-mindedness towards all team members
Outcome	Highly inspired ideation team has discovered promising and relevant customer frictions, trends, technology and innovation opportunities.
Crucial moments	<ol style="list-style-type: none"> 1. Following the Kick Off workshop, core team members soon arrange their visits to outside sources of inspiration. 2. Core team members speaking up during the interviews. 3. Core team members share their findings in a way that is inspiring. 4. Judgment is deferred during Observe & Learn workshops. 5. Extended team members give the floor to the core team members and listen well to what they have to report. 6. Core team members learn to think from the perspective of customer frictions. 7. Discovery of relevant customer frictions. 8. Choosing the best customer frictions and innovation opportunities.
Risks	<ol style="list-style-type: none"> 1. Core team members are too timid about taking the initiative to make appointments on their own. 2. Dominant extended team members lack good listening skills and don't defer judgment. 3. The focus group consists of the wrong mix of people. 4. The exploration spends too much time staying inside-the-box.
Next step	Raise Ideas: Ideating and improving twelve concepts from more than 500-750 ideas.

The Operational Excellence Excuse

Operational excellence is “a philosophy of the workplace where problem-solving, teamwork, and leadership results in the ongoing improvement in an organization. The process involves focusing on customer needs, keeping the employees positive and empowered, and continually improving the current activities in the workplace.”¹

In practice companies implementing this philosophy tend to focus on only doing things better and cheaper. In an economic crisis, companies misrepresent operational excellence for cost cutting purposes. Cost cutting is essential to keep companies profitable, but only for the short term. In the long run your business cannot indefinitely survive by improving its product at a lower cost. In times of crisis, operational excellence is used as an excuse to focus on costs, cutting into innovation budgets as one of the first.

This operational excellence does not reverse trends though. Better and cheaper newspapers couldn't stop digital news. Better and cheaper postal services couldn't stop email. Better and cheaper medical doctors couldn't stop nurse practitioners. Better and cheaper recruiting couldn't stop overseas outsourcing. Better and cheaper stores couldn't stop e-commerce.



New technology, new regulations, new entrants and new business models disrupt markets. Only doing things better won't help you. Besides upgrading you should be looking for groundbreaking ways to innovate your company. In fact, did you know that operational excellence can also be used to encourage genuine innovative ideas which provide value to customers and the organization?

But there are no old roads to new destinations. Where should you look? Be inspired by the famous words of the historical Apple campaign of 1997: Think Different.

Here's to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They're not fond of rules. And they have no respect for the status quo. You can quote them, disagree with them, glorify or vilify them. About the only thing you can't do is ignore them.

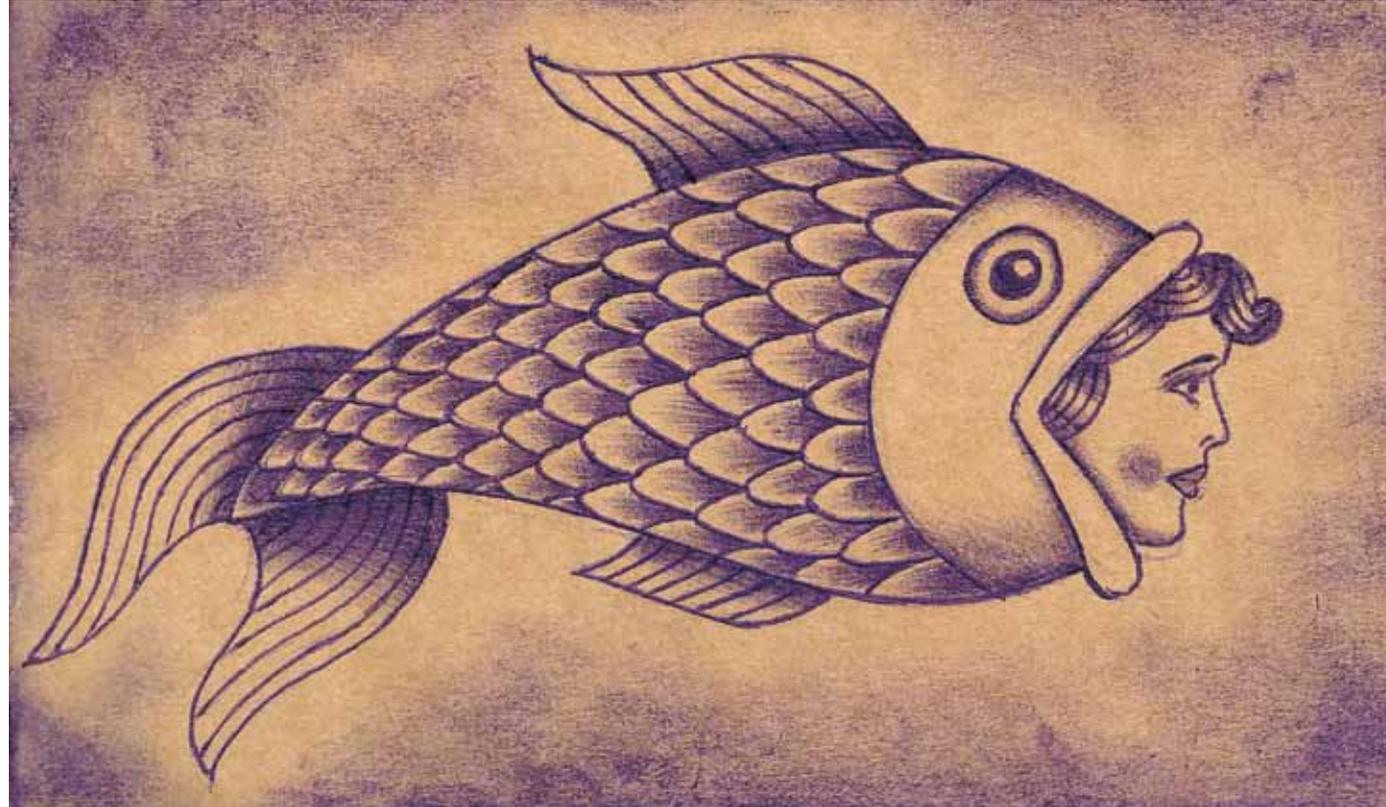
Because they change things. They push the human race forward. While some may see them as the crazy ones, we see genius. Because the people who are crazy enough to think they can change the world, are the ones who do.

Don't just do things better; that will only kill you in the end. Think different at the right moment. Hear the misfits, the rebels and the troublemakers. Think change.

1. www.businessdictionary.com

THINKING LIKE A DESIGNER

Thinking like a designer can transform the way you approach the world when imagining and creating new solutions for the future. It's about being aware of the world around you, believing that you play a role in shaping that world, and taking action toward a more desirable future. Thinking like a designer requires five characteristics.



“TO INVENT A FUTURE THAT DOESN'T EXIST, YOU REALLY HAVE TO UNDERSTAND WHAT PEOPLE ARE DOING TODAY AND COMPLETELY RE-IMAGINE IT.”

*< Bill Burnett,
executive director of the design
program at Stanford's d.school.*

1. Empathy. The empathic thinker can imagine the world from multiple perspectives - those of colleagues, clients, end users, and customers. By taking a “people first” approach, design thinkers can imagine solutions that are inherently desirable and meet explicit or latent needs. Great design thinkers notice things that others do not and use their insights to inspire innovation.

2. Integrative thinking. The integrative thinker not only relies on analytical processes but also exhibits the ability to see all of the salient - and sometimes contradictory - aspects of a confounding problem and creates novel solutions that go beyond and dramatically improve on existing alternatives.

3. Optimism. The optimistic thinker assumes that no matter how challenging the constraints of a given problem, at least one potential solution is better than the existing alternatives.

4. Experimentalism. The experimental thinker believes significant innovations don't come from incremental tweaks. Design thinkers pose questions and explore constraints in creative ways that proceed in entirely new directions.

5. Collaboration. The increasing complexity of products, services, and experiences has replaced the myth of the lone creative genius with the reality of the enthusiastic interdisciplinary collaborator. The best design thinkers don't simply work alongside other disciplines; many of them have significant experience in more than one.

Sources: Design Thinking Toolkit Ideo/Riverdale Country School, 'How Thinking Like a Designer Can Inspire Innovation' by Nadia Goodman www.entrepreneur.com, 'Design Thinking' by 'Tim Brown' Harvard Business Review June 2008.

Anonymous: *The fish is the last one
who will discover water.*

10 ELEMENTS OF AN OPEN INNOVATION CULTURE

Source: Stefan Lindgaard, *The Open Innovation Revolution: Essentials, Roadblocks and Leadership Skills*, Wiley, 2010. www.innovationmanagement.se "10 essential elements of an open innovation culture", June 9, 2010.

1

- People who can manage relationships with customers and partners: If you're going to open up your organization to ideas from the outside, then you need "agile and people who have the soft skills of emotional intelligence."

2

- A willingness to accept that not *all* of the smart people work at your company: At the same time, to be successful at open innovation, your organization's culture must not just accept this idea intellectually, but also have a willingness to seek out these outside ideas.

3

- An understanding that failures are learning opportunities; and a willingness to reward those efforts and that way of learning. "Failure is a way of life for companies that pursue innovation seriously, and a leader's response has a huge effect on company culture and, therefore, on future projects." Celebrate failure and learn from it!

4

- A willingness to help employees build the knowledge and understanding of how an idea or technology becomes a profitable business.

5

- Dismiss the Not-Invented-Here syndrome: "If we make the best use of internal and external ideas, we will win. We don't need to own everything ourselves and keep it under tight wraps. We should profit from others' use of our innovation process, and we should buy others' intellectual property whenever it advances our own business model."

6

- A willingness to strive for balance between internal and external R&D. "External R&D can create significant value; internal R&D is needed to claim some portion of that value."

7

- Willingness to be a risk taker rather than being risk averse.

8

- Accepting that open innovation does raise intellectual property issues.

9

- Understanding that open innovation requires open communication. "Work around confidentiality and intellectual property issues to create an environment based on trust."

10

- Not needing to always be first. "Building a better business model is better than getting to market first."

How to Get Rid of Old Ideas?

Innovation is all about getting new ideas for simple solutions to solve relevant customer problems or needs. When there is a sudden need for innovation the first thing people do is organize a brainstorming session. But usually this approach doesn't lead to anything innovative. That's why brainstorming has such negative connotations in a lot of companies. Because, when you brainstorm unprepared with the same group of colleagues, hardly anything new will appear. And you'd think not getting any new ideas would be the problem. But you'd be wrong. The problem is getting rid of the old ideas first!

I love this quote by the American businessman Dee Hock:

"The problem is never how to get new, innovative thoughts into your mind, but how to get old ones out. Every mind is a building filled with archaic furniture. Clean out a corner of your mind and creativity will instantly fill it."

Once you've got the old ideas out of your mind, new ones come automatically! That's why it is essential that you first change your thought patterns to get rid of the old ideas before you can create new ones. Key to breaking old thought patterns is acknowledging that they are outdated and keep you from the progress you really desire. You won't convince yourself of this by staying behind your desk. You have to go out there to chal-

lenge your old insights. There are many ways to replace old ideas with new insights:

1. Explore trends

By exploring trends yourself, you will realize the world is changing rapidly. Trends offer inspiration for new insights. So study new concepts or business models based on new trends. And see that there are all kinds of emerging market offerings. Refer to the checklist with 18 international top trend sites as a starter.

2. Explore technology

Technological developments are a wonderful source of inspiration. You will find technological resources in your own country as well, such as universities of technology, research centers linked to non-profit government agencies or large tech companies such as Google, Philips,

Siemens or Vodafone. And, get into contact with market leaders such as Samsung, 3M, IBM or Cap Gemini to explore their new technology. Soon, you'll find out that the way you have been doing things is fast becoming obsolete.

3. Explore Opportunities

Generate potential innovation opportunities and seek inspiring sources for those opportunities. Go out and meet with inspiring people. One thing will lead to another. Your exploration journey will automatically take you off the familiar highways your mind usually follows.

4. Explore Customer Frictions

Meeting customers in person and discovering their frictions are the most effective sources of inspiration when it comes to getting rid of old ideas. A customer friction is a relevant need, impulse or wish from a specific target group, which is currently left unsatisfied. Often, these are issues people struggle with daily in their personal and professional lives. You just have to get out there; meet and talk with them, always asking the most important question: why?! Remember: "The man who asks a question is a fool for a minute, the man who does not ask is a fool for life." [Confucius].



You
need fresh,
new insights
to get fresh,
new ideas.

7 TIPS FOR AN INNOVATIVE WEB SEARCH

What is the fastest way you can find ideas, inspiration and innovation opportunities on the web? Stop searching and start using these seven tips to directly find the most unique and relevant sites during your discovery.

1. Proper off line preparation

You shouldn't blindly start a Google search. It's better to start by meticulously writing down your conditions for a query:

- What are the five to seven essential terms in your query?
- Search sites in languages other than English and translate the key words in three other languages (via Google Translate).
- Imagine the ideal page answering your queries. What do these ideal answers look like? Use this exact same wording as a search query.

2. Use all of Google's possibilities.

Hundreds of extra search options are hidden behind Google's 'minimal' homepage.

- Always use 'Google advanced' and select, when needed, language, country, file format, date, et cetera.
- Always use at least three query terms and use parenthesis when these words have to be searched together.
- There are a number of specific channels on Google. Explore your query also in Google images, scholar, video, news, blogs, directory, et cetera.

3. Solo brainstorming

By now, you have settled into your query. Take time to gain some perspective. After all, you're looking for something still unknown to you. So, you can't realistically expect to find an answer via Google. Therefore, it is best to imagine possible cases that you hope to find on the net. Come up with a list around your query of over fifty new product or service ideas. The weirder, the better. Consequently, do a search on the net for these imaginary products. You'll automatically end up on sites you wouldn't usually find.

4. There's more out there than Google

It's time to leave Google, as Google only offers us a small fraction of the Internet. An ideal starting point is <http://www.browsys.com/finder/>. You'll find numerous search engines that are well categorized (general, images, video, news, social, files, reference, academic). You'll also notice right away that you can query in very diverse formats. It is also highly recommended to search through social media such as Twitter, LinkedIn Groups, et cetera.

5. Search in different languages

Install the Google Toolbar, it will immediately translate foreign language sites to English. The translations are far from perfect, but good enough to give you the general idea. For example, if you need to find information on innovations related to food or gadgets, just query some Japanese sites. First imagine which countries have a lot of expertise in the domain you're researching, then go and explore them.

6. Deep web search

A lot of information is not directly accessible via Google. A lot of diverse sources (large databases, libraries and archives) have to be queried directly. That's why you need to scout (via Google) your main sources and then, one-by-one, research these sources with your query. You can also perform a deep search by smart multiplication. Imagine you've found one well-hidden super source around your query. Then use Google to find out who else talks about this site. Most likely you'll discover another valuable source. Consequently, combine both sources in Google and you will most likely discover a third and a fourth. Combine all four and you will end up on a site belonging to someone who already collected the information related to your original query.

7. Find ideas from other sectors

Three tips to combine ideas from other worlds with your query:

- RSS Feeds: Don't just subscribe to sites around your domain, but also subscribe to at least ten other sectors and areas of interest each month.
- Search for a sector that is somewhat related, where the level of innovation is higher than in your sector. Consequently check if these innovations can be translated to your query. Take this query for example: how can I avoid lines at the cash register? Then try a search for innovations concerning traffic congestion on the road.
- Make a list of the most innovative companies that are currently out there. Then imagine how they would innovate in your domain. Some examples: How would Nike innovate public transportation? How would Virgin design a new cell phone? How would Cirque du Soleil innovate hotels and restaurants?

Source: Marc Heleven, web search professional, www.7ideas.be.

18 TOP INTERNATIONAL TREND SITES

Springwise

Springwise scans the globe for the most promising business ventures, ideas and concepts that are ready for regional or international adaptation, expansion, partnering, investments or cooperation. www.springwise.com

Trendwatching

One of the world's leading trend firms, trendwatching.com scans the globe for emerging consumer trends, insights and innovations. www.trendwatching.com

Trendhunter

Trend Hunter is the world's largest, most popular collection of cutting edge ideas, crowdsourced by 85,462 Trend Hunters. www.trendhunter.com

NOTCOT

NOTCOT Inc is a growing network of design sites currently including NOTCOT.com and innovative community contributed sites NOTCOT.org + NotCouture.com + Liqueurios.com. NOTCOT is a visual filtration of ideas + aesthetics + amusements. www.notcot.org

More Inspiration

MoreInspiration lets you discover innovative products and technologies from all possible domains. www.moreinspiration.com

PSFK

Over 1,000,000 readers from the design, digital, marketing, media and technology industries come to PSFK each month to read and share emerging ideas. www.psfk.com

Trends@alltop

The purpose of Alltop is to help you answer the question, 'What's happening?' in 'all the topics' that interest you. You may wonder how Alltop is different from a search engine. A search engine is good for answering questions like, 'How many people live in China?' However, it has a much harder time answering the question, 'What's happening in China?' That's the kind of question that Alltop answers. trends.alltop.com

CoolBusinessIdeas

CoolBusinessIdeas.com is a blog about brand new promising business ideas around the world. Follow them in the hunt for the latest business concepts! www.coolbusinessideas.com

Trendcentral

Powered by the research, insights and global trendsetter network of The Intelligence Group, trendcentral@ focuses on what's new and what's next in the realms of lifestyle, fashion, entertainment and technology. Over the years, trendcentral has forecast the arrival of cultural phenomena well before they entered the mainstream, ranging from branded designer jeans and vampire films to videoblogging and Twitter. www.trendcentral.com

World Future

Our mission is to enable thinkers, political personalities, scientists and lay-people to share an informed, serious dialogue on what the future will be like. www.wfs.org

David Report

David Report is an influential blog and online magazine that since 2006 writes about trends in the intersection of design, culture and business. Our readers share our interest and curiosity in everything from art, architecture, culture, design and fashion to food, innovation, music, sustainability and travel. www.davidreport.com

TED

TED is a nonprofit devoted to Ideas Worth Spreading. It started out (in 1984) as a conference bringing together people from three worlds: Technology, Entertainment, Design. www.ted.com

JWT Intelligence

We focus on identifying changes in the global zeitgeist so as to convert shifts into compelling opportunities for brands. We have done this on behalf of multinational clients across several categories including pharmaceuticals, cosmetics, food, home and personal care. www.jwtintelligence.com

Copenhagen Institute for Futures Studies

The objective of the Copenhagen Institute for Futures Studies is to strengthen the basis for decision-making in public and private organizations by creating awareness of the future and highlighting its importance to the present. www.cifs.dk/en/

Lidewij Edelkoort

From her creation of innovative trend books and audiovisuals since the 1980s to lifestyle analysis and research conducted for the world's leading brands today, Lidewij has pioneered trend forecasting as a profession. www.edelkoort.com

TrendOriginal

TrendOriginal is the personal consumer trends collections of Dr. Taly Weiss, CEO and head researcher for TrendsSpotting.com Market Research and founder of TrendoScope-The trend spotting lab. www.trendoriginal.com

Cool Hunting

Cool Hunting is synonymous with seeking inspiration. Our global team of editors and contributors sift through innovations in design, technology, art and culture to create our award-winning publication, consisting of daily updates and weekly mini-documentaries. www.coolhunting.com

Mashable

Mashable is the largest independent news source dedicated to covering digital culture, social media and technology. Mashable's 20 million monthly unique visitors and 4 million social media followers have become one of the most engaged online news communities. www.mashable.com

With special thanks to, web search professional, Marc Heleven, www.7ideas.be

Innovators Look for Problems

One of the main reasons innovation is difficult, is because your potential users need to change their behavior. They will have to find, buy and use your innovation. And why should they? That's the question! You will have to give them a strong reason why! This applies both to consumers and B2B markets.

Ask yourself the question: when was the last time I changed my own behavior? We are all stuck in our habits; doing things in fixed patterns. We as innovators do this as well. For years, we go on reading the same journals, buying the same cars and staying with the same insurance company. The only reason for us to change is if a new, simple and attractive solution comes along that is relevant to our lives. I guess I can make it as simple as that.

Simply put, effective innovation is all about matching relevant problems with simple solutions. You can approach it two different ways. One way is to create the ideas and solutions first and later try to match these to target groups with problems relevant to your solutions. Or you can do it the other way by first identifying the relevant problems of the target groups and then creating ideas and solutions to solve those problems.

I'd like to inspire you with a list of ten practical problems and innovative new products or services solving them.



Problem	Solution
Consultant: I need new assignments. How do I expand my business network in an efficient way?	<i>LinkedIn</i>
Music lovers: I love listening to music for free, but I hate to be a pirate downloading it illegally.	<i>Spotify</i>
Consumer cleaning: I'm sick and tired of a poorly performing vacuum cleaner.	<i>Dyson Cyclone vacuum cleaner</i>
Consumer: Is this bed clean and free of bugs I can hardly see?	<i>The Bed Bug Detective</i>
Snowboarder: I'd like to go downhill fast, but I am afraid of nasty accidents.	<i>The Katal Landing Pad</i>
Consumer painting: If there is one thing that really annoys me, it's cleaning used brushes and rollers.	<i>Dulux PaintPod</i>
Green consumer: I hate wasting water and money flushing the toilet.	<i>Brondell Perfect Flush</i>
3rd world countries: We lack clean drinking water due to flooding.	<i>Filtrix Filterpen</i>
Full-time mother: Now that the kids are older, I'd like to re-enter the workforce, but who is looking for someone like me?	<i>Work4Women</i>
Green consumer: I love to celebrate Christmas with a real tree, but don't like destroying nature.	<i>Lease a living Christmas tree</i>

But how should you go about finding relevant problems among your target groups? Here are five ways to help you in practice:

- Visit customers at their homes or companies and get acquainted with them.
- Have your customers demonstrate how they use your product and observe how it's used in practice.
- Invite customers to focus groups and listen to their issues.
- Ask customers which products in your domain are their favorites and why.
- Crowdsource customer problems by asking customers to post their input on issues, suggestions, improvements or ideas on relevant places on the web.

*Get out there
and just do it.*

Robert Frost,
poet: *Two roads diverged
in a wood and I took the one less
traveled by.*

Meeting (potential) customers in person and talking to customers in focus groups belong to the most effective techniques for creating new product ideas. A previously mentioned recent American study concerning ideation techniques confirms this.¹ It is of the utmost importance to know how existing products or services in the domain of your innovation mission are being used or which role they play in a specific production process in B2B markets.

The proper preparation will help you to find customer frictions. There are three important questions to answer:

1. Who are the relevant customers?
2. How do we discover what their concerns are?
3. How do we describe the customer friction?

HOW TO FIND CUSTOMER FRICTIONS?

1. Identifying relevant customer groups

In both B2C and B2B markets, you need to ask yourself the question: Who is involved in the decision making process in the relevant domain for this product/service category? Identify different roles, like:

1. The Initiator - who starts the purchasing process?
2. The Influencer - who tries to convince others they need the product?
3. The Decider - who makes the final decision?
4. The Buyer - who is going to pay the bill?
5. The User - who ends up using your product or service?

Another way to identify customers is based on their usage:

1. Non-users.
2. Light-users.
3. Average-users.
4. Heavy-users.
4. Ex-users.

Select the customer groups based on roles or usage most relevant to you. Identify matching consumers or professional customers, who you can contact and visit personally or invite to join a focus group discussion.

2. Discovering what their concerns are

Stepping into the lives of consumers or professional customers is THE way to discover issues people are concerned with. Person-to-person interviews work quite well as they are conducive to building mutual trust and make the participants more inclined to tell you what bothers them in the product/service domain you'd like to discuss with them. Focus groups are also a good option if the subject is not too sensitive. The script used to discover customer frictions is quite similar for personal interviews and focus groups:

- Tell me about yourself.
- Tell me about the relevancy for you of products/services in this domain. Why?
- Tell me about your buying experience. Why?
- Tell me about the usage of these products/services. Why?
- On buying/using: What are you struggling with? Which problems do you encounter? Why?
- What would be your ultimate dream in this domain? Why?

As you noticed, the key question is: WHY?

3. Describing the customer's friction

In recognizing struggles, problems of customers, carefully listen to what they say. A lot of times a real friction will start with "BUT..." A very handy format describing customer frictions contains three elements.

- A. Situation: Describes the personal characteristics and situation of the customer.
- B. Need: Describes the needs of the customer.
- C. Friction: Describes the problem or struggle of the customer.

Let me give you a concrete example of a friction in Northern Europe among women ages 30-50 with children:

- A. Situation: I am a housewife and mother of two children.
- B. Need: I would love to be more than the mother of..... or the wife of..... and would like to go back to work again.
- C. Friction: But I am afraid that I won't be able to combine a part-time job with my responsibilities at home. Besides that, temp agencies don't like to employ mothers.

Tip: The art of describing a good customer friction is to write it down in plain customer language and keep it as simple as possible.

1. Robert G. Cooper, Scott Edgett (March 2008). "Ideation for Product Innovation: What are the Best Methods?" PDMA Visions.

11 BRILLIANT INVENTIONS MADE BY MISTAKE¹

EAST INDIES

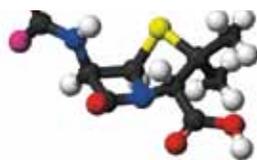
1. Columbus. Columbus's personal goal was to seek wealth by establishing a new trade route and reach the East Indies by sailing westward. On October 12, 1492 he sighted land. He called the inhabitants Indians being sure that he had reached the Indies. But he discovered the Americas.



AMERICA

Some of the most popular products were happy accidents. Serendepity: the accident of finding something good or useful while not specifically searching for it.²

2. Penicillin. Alexander Fleming left a pile of dirty petri dishes stacked up. In one of them mold had blocked the bacteria and penicillin was identified.



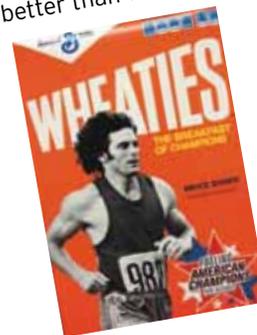
3. The Slinky. In 1943, Richard James developed fragile springs to keep equipment steady on ships. When he took it home, his wife saw the potential for a new toy: the Slinky.



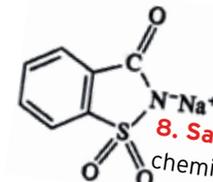
4. Post-it-Notes. Spencer Silver tried to develop a superstrong adhesive in 1968. He invented the opposite. Colleague Art Fry saw a new way to mark pages in his hymnbook.



5. Wheaties. In 1922 a clumsy dietitian spilled a wheat bran mixture on a hot stove. It turned into flakes that tasted much better than the original..



9. Corn Flakes. In 1894 the Kellogg brothers were called away after cooking some wheat. When they came back, the wheat had become stale. They decided to force it through rollers. The wheat berries were flattened into flakes and then baked. After experimenting with other grains, Corn Flakes were born.

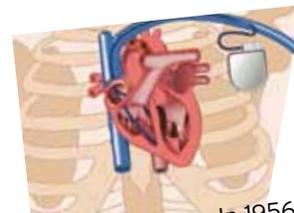


8. Saccharine. In 1879 chemist Constantin Fahlberg rushed off for a meal with his hands all still covered in laboratory goo. He broke a piece of bread, put it to his lips, and noticed it tasted unusually sweet.

7. Plastics. Hyatt accidentally spilled a bottle of collodion, to discover it formed a flexible-yet-strong material. His brother Isaiah coined the term celluloid to describe the first commercially successful plastic.



10. Pacemaker. In 1956, Greatbatch was working on building a heart rhythm recording device. He reached into a box and pulled out a resistor of the wrong size and plugged it into the circuit. When he installed it, he recognized the rhythmic lub-dub sound of the human heart.



6. The Color Mauve. In 1856, chemist William Perkin was working on a creating an artificial version of the malaria drug quinine. Instead, his experiments produced a dark oily sludge: inventing synthetic dye.



11. Coke. Pharmacist John Pemberton was trying to make a cure for headaches in 1886. He mixed together a bunch of ingredients. It took eight years of being sold in a drug store before the drink was popular enough to be sold in bottles.



1. Inspired by Tom Donnelly, '9 Brilliant Inventions Made by Mistake', Inc.com August 15th, 2012.

2. Wikipedia.org.

THE ORIGIN OF **Wii** AND **SUPER MARIO**

With special thanks to Marcel Grauls, who wanted to share this story in this book.

Satoru Iwata, president of Nintendo, believes in the “blue ocean” business theory. For a company to succeed, its target should be a blue ocean: a place without competitors. Companies who enter a bloody red ocean, full of aggressive rivals, will have a substantially lower chance of success. With the traditional games becoming more and more realistic, the products were only appealing to young men ages 18-35. What about targeting families, women, small children and seniors? That’s why the Brain Age games line that was recently introduced targeted the older generation. That’s why the Wii series introduced: Wii Fit, Wii Music, Wii Sport. That’s why a Wii doesn’t have a joystick or two-handed controller, but comes with a wireless Wiimote: a bar with moving sensors which displays the player’s motions on the screen.

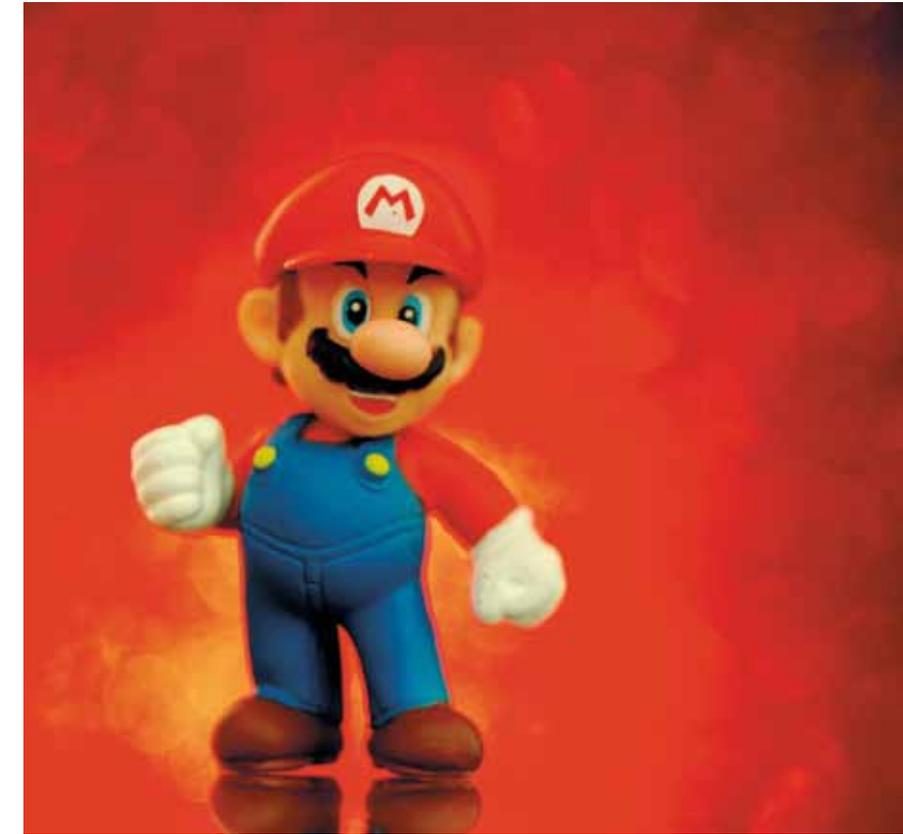
The driving force behind all of this is Shigeru Miyamoto, the creator of 70 percent of all the Nintendo games. He has been dubbed ‘the Spielberg’ or ‘the Walt Disney’ of video games. Miyamoto was the first one to introduce a storyline and characters to video games. The stories are always based on his own experiences. The Wii-Fit is as well. “Around my forties I started gaining weight and started swimming to lose weight. After a while this really worked, but then I started to neglect my weight again and gained

it all back. My wife suggested buying a good scale, one that could measure the fat percentage as well as the weight. This really got me interested in measuring my weight. I hung up a graph in my bathroom tracking my weight and fat. Wii Fit originally was named ‘Health Pack’ and was nothing more than a new kind of digital scale to connect to your original Wii. In Miyamoto’s brain it was only a small step to the Wii Fit balance board, which customers are buying by the millions each year.

Shigeru Miyamoto was born on November 16, 1952 in Sonobe, a small city fifty kilometers north east of Kyoto. He grew up surrounded by nature. He fished in rivers, ran through rice fields and rolled down hills. In those days, his parents, both teachers, didn’t have a TV at home. In the evenings, Shigeru’s parents would take him to the Noh theater, Kabuki dance drama or Bunraku puppet theater. On several occasions they traveled by train to Kyoto to shop or go to the cinema. As a young boy, Shigeru watched Disney’s Peter Pan and Snow White. He loved reading, drawing and painting. He handcrafted intricate puppets that he used in his own puppet theater. One day, while out exploring, he discovered a cave in a nearby forest. After some hesitation, he got the courage to enter the cave armed with a flashlight he had made himself. Inside he found another entrance that led deeper into the cave and he continued to proceed with his heart pounding. He never forgot the excitement he felt at that moment. In all

the games that he would later develop, he tried to create the same sense of thrill from those childhood experiences.

Later on, the Miyamoto family moved to Kyoto. Shigeru dreamed about being an artist, puppeteer or a painter. He always had paper and a pencil with him and made drawings of nature or comics: especially the popular manga comics. In 1970, he started his study as industrial designer at the University of Kanazawa. He was not really a hardworking student and it took him five years to graduate instead of three. He drew, listened to music, taught himself to play guitar and studied country music. He performed together with banjo accompaniment in coffee shops and at parties in Kyoto. After he graduated, he was clueless about which profession to choose. He father contacted an old acquaintance of his, Hiroshi Yamauchi, the boss of Nintendo. “We need engineers, not artists.” Yamauchi had said. Nevertheless, Shigeru was invited to pay him a visit. Nintendo historian Shepp described Miyamoto’s appearance like this: a 24-year-old, with wild hair and a smile like the cat who just ate the canary. Yamauchi asked Shigeru to come back with some ideas for toys. He came up with coat racks with pegs shaped like a bird or an elephant’s head; all with rounded edges so children couldn’t hurt themselves. He was then given a job at Planning. This was in 1977. One of Miyamoto’s early assignments was not ideating games, but designing cabinets for video arcade games. >>



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Since 1980, Nintendo had been trying to conquer the American market with its arcade games. But it was failure after failure. Finally, Yamauchi asked Miyamoto if he could ideate a new game. As a student Miyamoto played many video games: the usual shooting games in video arcades. You had to shoot enemy planes, which came right at you. He found them uninspiring. He had often wondered why these games did not contain a storyline like in books or movies. Why couldn't games be interpreted as his favorite stories, fairy tales and legends like King Kong? And that was the moment he came up with a storyline about a sweet King Kong, who belonged to a crazy carpenter who treated him badly. The game consists of an elaborate chase through a construction site with different levels and various obstacles along the way. The gorilla kidnapped the carpenter's girlfriend and ran up to the seventh storey of a house under construction. Being chased by the carpenter, the gorilla would then throw barrels of cement at the carpenter. Players could help the carpenter to jump over the barrels. And that's how the carpenter got his original name: Jumpman. Reaching the top storey, the chase continued over the steel beams. Now forcing the carpenter to escape the flames and falling beams. Once the entire structure has collapsed, the carpenter and his girlfriend are finally re-united. The carpenter needed to be a bit weird. Miyamoto started with a big nose and two big eyes. The engineers taught Miyamoto that the body should be clearly visible, so he chose striking clothes and

big arms. As it was difficult to make the hair move in conjunction with every movement, Miyamoto put a red cap on the carpenter's head. Miyamoto even wrote the music for the game with the help of an electric keyboard.

As Yamauchi wanted to enter the American market, the game had to have an English name. But Miyamoto hardly understood English. In Japanese he came up with the name "Stubborn Gorilla". In the English dictionary under "stubborn" he found the word "donkey" and from "King Kong" he took the word "Kong". It wasn't until much later that Nintendo realized the name Donkey Kong didn't make sense in English. The Nintendo team who had to market the new game in the United States was astonished after having had so many failures in the past. They changed the name of the carpenter from "Jumpman" to "Mario", because the character resembled Mario Segali the landlord of the branch building rented by Nintendo. Despite the team's protests Yamauchi stuck to the name Donkey Kong. And in 1981 Donkey Kong became Nintendo's first smash hit in American arcades.

Nintendo's top designer Gunpei Yokoi, employed at Nintendo since 1965, needed some help with ideating new games for his Games & Watch. He asked Yamauchi if he could ask Miyamoto for help, who immediately developed an adaptation of Donkey Kong. Another top designer at Nintendo, Uemada was look-

ing for new games for the game console Famicom NES. Again Miyamoto was invited to the big boss' office. Miyamoto again re-invented the carpenter character. After someone had told Miyamoto that Mario really looked more like a plumber than a carpenter, he transformed Mario into a plumber. It was one of Miyamoto's wishes to let two people play a game together. So, he ideated a brother for Mario, called Luigi, who was all dressed in green. This storyline for the Famicom was developed into the game 'Super Mario Bros' and was released in 1984. It became one of the best-loved video games ever. Shigeru Miyamoto still contributes to the success of Nintendo. He currently manages the Nintendo Entertainment Analysis and Development branch which employs 400 people and handles many of Nintendo's top-selling titles. In his team he is known for a special habit that he has, a phenomenon, which the Japanese call 'chabudai gaeshi'. This means literally 'upending the tea table'. Figuratively this stands for Miyamoto saying, "Stop! Start all over from zero."

In March 2005, he was one of the first people to receive a star on San Francisco's 'Walk of Game'. The game series of Donkey Kong, Mario and Zelda alone, have sold more than 350 million worldwide. He has been chosen repeatedly by *Time* Magazine as one of the most influential people of our contemporary culture.

Source: Marcel Grauls, *Gewoon Geniaal*, Publisher Van Halewyck, October 2009.

