

THIS BOOK IS A PRACTICAL GUIDE ON HOW YOU CAN BEST NAVIGATE THE INNOVATION MAZE. IT SHOWS FOUR CLEAR ROUTES FROM DIFFERENT NATURAL INNOVATION STARTING POINTS AND GUIDES YOU PAST ANY OBSTACLES THAT COULD PREVENT YOU FROM SUCCESSFULLY DELIVERING NEW BUSINESS CASES FOR PRODUCTS, SERVICES, EXPERIENCES AND BUSINESS MODELS. IT IS STRUCTURED INTO 20 SECTIONS WITH 34 CHARTS OF GRAPHICS, EXAMPLES, TEMPLATES AND CASES.

SEVEN TOP FUTURISTS MAKE SOME PRETTY SURPRISING PREDICTIONS FOR 2025

A RAPIDLY CHANGING WORLD

Source

The Huffington Post, Jacqueline Howard, 05-12-2015.
http://www.huffingtonpost.com/2015/05/12/futurists-next-10-years_n_7241210.html

Dr. Michio Kaku,
professor of theoretical physics at the City University of New York and author of *The Future of the Mind*:

"In the next 10 years, we will see the gradual transition from an Internet to a brain-net, in which thoughts, emotions, feelings, and memories might be transmitted instantly across the planet."

Dr. Ray Kurzweil,
inventor, pioneering computer scientist, and director of engineering at Google:

"By 2025, 3D printers will print clothing at very low cost. There will be many free open source designs, but people will still spend money to download clothing files from the latest hot designer just as people spend money today for eBooks, music and movies despite all of the free material available."

Dr. Anne Lise Kjaer,
founder of London-based trend forecasting agency Kjaer Global:

"The World Health Organization predicts that chronic diseases will account for almost three-quarters of all deaths worldwide by 2020, so the evolution of M-Health (mobile diagnostics, bio-feedback and personal monitoring) is set to revolutionize treatment of conditions such as diabetes and high blood pressure."

Dr. James Canton,
CEO of the San Francisco-based Institute for Global Futures and author of *Future Smart: Managing the Game-Changing Trends that will Transform Your World*:

"Wearable mobile devices will blanket the world. Artificial intelligence becomes both as smart as and smarter than humans. AI will be embedded in autos, robots, homes and hospitals will create the AI economy."

Jason Silva,
host of National Geographic Channel's *Brain Games*:

"The on-demand revolution will become the on-demand world, where biological software upgrades, personalized medicine, artificially intelligent assistants will increasingly transform healthcare and well-being."

Dr. Amy Zalman,
CEO & president of the World Future Society:

"A more accurate understanding of how we humans function -- how we trust, cooperate and learn but also fight and hate -- is a tool that public policy-makers and we citizens can use to build better governance and better futures."

Mark Stevenson,
author of *An Optimist's Tour of the Future*:

"The technologies aren't the most important bit -- although they are super cool. It's what society does with them, and right now it's institutional change that's the sticking point.... What you really want to look at, in my opinion, is new ways of organizing ourselves."

THE MESSAGE FROM THE MAZE

E.

Labyrinths in gardens of the well-to-do start being mentioned in the late 12th century. Yet the earliest surviving pictures are only found in early printed books about 'ideal gardens': Serlio's *Libri cinque d'architettura* (1537), Thomas Hyll's *The profitable arte of gardening* (1579) and Hans Vredeman de Vries' *Hortorum viridariumque (etc.)* (1583). These show 'garden labyrinths' as executed in low shrubs and flower borders, which eventually come into vogue in French and Italian estate gardens, such as at Villa d' Este (Tivoli, Italy, 1560s). D. Loris's *Le Thesor Des Parterres De L'Univers* (1579) is an early volume that also shows first maze patterns, including junctions. Late 16th century Dutch and Italian paintings show depictions of 'labyrinths of love', simple mazes with now waist-high hedges, in which couples playfully pursue courtly love. Raising the height of hedges between paths even more, the visitor can no longer see where he is going, and combined with junctions and dead ends, around the end of the 16th century the classical 'garden maze' is born: tall, slowly growing, neatly clipped hedges, often evergreen, and deliberately designed to provide puzzling, amusing disorientation, only to relieve the visitor when he reaches the central goal.

B.

Art historians have shown people to produce visually challenging patterns since prehistoric times. Some of these patterns are tightly packed, meandering or spiral paths forming beautiful ornamentation. A very specific class of such path-based drawings shows an irregularly winding and turning path that is not only pleasing to the eye, but also evokes a playfully whimsical response from the spectator - an urge to follow the course of its windings, curious as to how they are connected. At first glance, they appear to be a puzzle. A closer look at these drawings - the oldest carved in stone possibly 4,000 years ago - reveals they always consist of just one single path, leading from the periphery to a center, commonly following seven concentric circles. Obviously, these 'mazes' were not meant to be solved, but were likely intended to have a symbolic meaning. Experts classify such single-pathed structures as 'classical labyrinths' - distinct from other labyrinths that may have more or fewer than seven windings - and also different from 'mazes', which also consist of winding paths towards a specific goal, yet including junctions and - optionally - dead ends, forcing the visitor to make choices along his or her journey. While labyrinths have figured in many cultures since ancient times, maze structures have only been around since the advent of the renaissance era in Western Europe.

D.

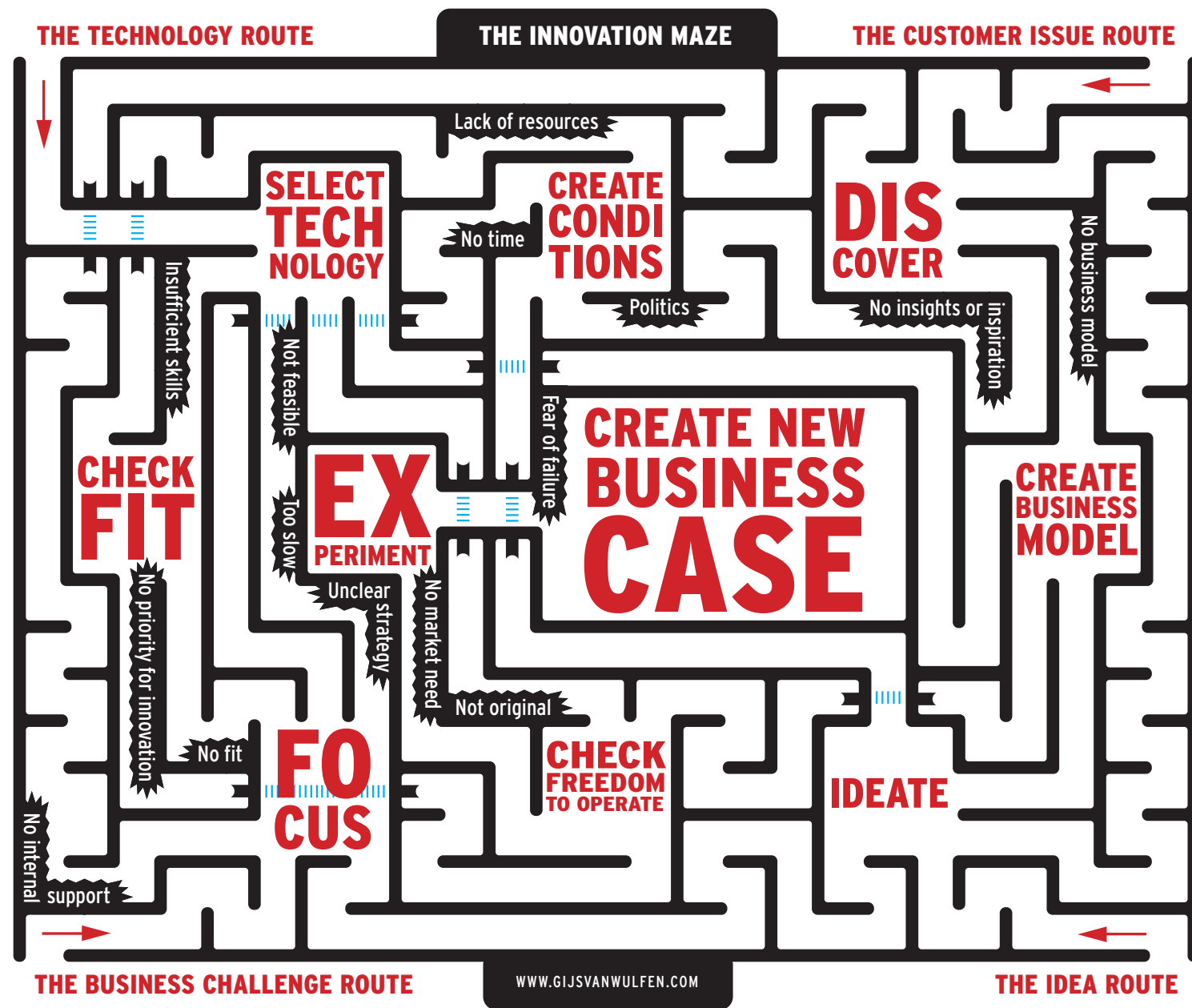
From the early 12th century onwards, these Christian labyrinths start being prominently featured on floors of gothic cathedrals in Northern France. Although the exact intentions of their builders were not clearly recorded, such 'church labyrinths' were, until the end of 13th century, used individually as an alternative for a pilgrimage to Jerusalem, and later as a layout for the ballgame *pilota*, included in dancing ceremonies of clergy around Easter celebrations. The labyrinth of Chartres Cathedral (Chartres, France, ca. 1202) is considered the archetype of this form - its pattern still popular today with labyrinth walkers. To our modern eyes, walking a life-sized labyrinth may not immediately appear as an interesting proposition. Yet, following its predestined, winding journey surprisingly does something to almost any walker's state of mind, bringing him either in confusion, repentance, consolation, or resignation. Walking the labyrinth is therefore both pursued as a healing ritual, or a pleasing spiritual experience in itself.

C.

Because of its iconic qualities, it is tempting to establish one single meaning of the labyrinth in ancient culture, but in fact the labyrinth appears in many different connotations. In antiquity, the classical labyrinth is associated with the legends of the conquered cities of Troy and Jericho, but most often with the myth of Theseus, the Athens prince who was able to escape from King Minos' labyrinth of the Minotaur - half man, half bull - with the help of Ariadne's thread (a plot, paradoxically enough, clearly involving a maze!). Throughout the first centuries CE, this story typically features in the square, four-sectored Roman floor mosaic labyrinths, such as the one in the Roman Villa Loig Bath Complex (Salzburg, Austria, ca. 275). From the 8th century onwards, labyrinths are featured in manuscripts produced in Christian monasteries. Besides illustrating Theseus' story, they now also serve as symbolic representations of planetary movements, as calendars, and general metaphors for complex argumentation. Manuscripts also feature new developments in labyrinth design, starting with the eleven-ring 'Otfrid' type, and eventually evolve into elaborately winding, beautifully symmetric designs, typically dictated by four axes.

A.

In today's world, complexity is often an unwelcome message. We are increasingly getting used to the idea that any information needed is instantly available through the wireless internet, and that any problem can - and should - be instantly solvable. It is just a matter of getting the right app. Take traveling for instance. As contemporary motorists, all we need to do is enter our destination into our sat nav, follow the directions, and go. Arriving at our destination, we often don't have a clue how we got there. Gone are the days when we spread out our maps on the car hood, searched for road signs from behind the steering wheel, or hastily pulled over to re-check the map. Also gone are the surprises - the dead ends, the uncertainty of which road you are on, or the discovery you have actually been driving in circles. Traveling requires less and less creativity, improvisation, and planning. If you wanted to, you could eliminate the map all together and simply accept the process. Yet, allowing yourself to be challenged by disorientation is precisely what the maze is all about.



THE 4 ROUTES TO START INNOVATION

The Fuzzy Front End of innovation ends when an organization approves and begins the formal development of a concept.¹ It's the end of the beginning. This informal start of innovation is considered as a warming-up for the real work, but is unfortunately packed with at least fifteen obstacles that should be avoided. To raise the effectiveness of your innovation efforts, this chapter gives you four structured routes through the innovation maze to well-founded convincing business cases. I believe, just like Thomas Edison, that preparation leads to success.

"Unfortunately, there seems to be far more opportunity out there than ability.... We should remember that good fortune often happens when opportunity meets with preparation." [Thomas Edison].

Innovation can start as a slow hunch, taking years before becoming a real opportunity or it may start right now as a result of an urgent business challenge. As said in Chapter 2, innovation may start in lots of ways. To me, it's not a question of how innovative you are. It's a question of how you are innovative! Whether you start with a business challenge, with a (startup) idea, with a technology or with a problem of one of your clients; you just have to pick the right route through the maze.

A 2011 study by the American Productivity and Quality Center among more than 200 companies proved that having a clearly defined new product development process in the form of a game plan, playbook or stage-gated system that guides innovation projects is an important condition for success. Nearly all the best performers (90 percent) had some kind of formal process in place, compared to only 44 percent of the worst performers.² The four routes presented in this chapter won't eliminate the risk of failure completely of course. The structured routes though will reduce this risk of failure because they will guide you along 15 pitfalls and obstacles identified in the previous chapter. The four routes through the innovation maze give you better chances to create a well-founded convincing new business case and eventually a great new product, service, process or experience.

THE IDEA ROUTE: I HAVE AN IDEA; NOW WHAT?

Google, currently a company with a market capitalization of \$ 500 billion on the US Stock Exchange, started as an idea. In 1995, the idea for “downloading the entire web onto computers” came to Google inventor Larry Page in a dream when he was 23 years old. He claimed, “I spent the middle of that night scribbling out the details and convincing myself it would work.”¹ And it did, as we all know. And he is not the only one who took an idea to market as a startup and made it big. The Wall Street Journal and Dow Jones VentureSource are tracking venture-backed private companies valued at \$1 billion or more. The top 10 highest valued startups contains a lot of well-known names like Uber (\$ 50.0 billion), Xiaomi (\$ 46.0 billion), Airbnb (\$ 25.5 billion), Palantir (\$ 20.0 billion), Snapchat (\$ 16.0 billion), Flipkart (\$ 15.0 billion), Didi Kuaidi (\$ 15.0 billion), SpaceX (\$ 12.0 billion), Pinterest (\$ 11.0 billion) and Dropbox (\$ 10.0 billion).² You’ve probably used the services of a couple of these yourself.

The start of corporate innovation often doesn’t differ much from a startup, as most corporate innovators similarly start with an idea or opportunity. It all starts with a conscious spark triggered by new

observations and associations, making new connections in the human brain. A big idea might come to you as a slow hunch or it may strike you like lightning. However, unless you take action it will simply drop dead on the floor. Quoting Ijuri and Kuhn: “Innovation is the process of taking those ideas to market or to usefulness.”³ Now, think about how often you have said, “That’s a great idea, I must make it a reality.” But what ends up happening most of the time? Nothing. Be aware that most of the time nothing materializes because you don’t have the courage, resources, time and/or money to take action. Yes, transforming an idea into a reality (regardless of the required investment of time and money) is extremely difficult. That’s why I want to help you along.

The main question is: “How do you develop your idea or opportunity into a well-founded convincing new business case?” The Idea Route through the innovation maze helps you with that.

I would like to guide you through the innovation maze in chart 10 on the basis of a practical example. Let’s take the origin of Airbnb. It’s a website where you can list, find and rent lodging all over the world. It has over 1.5 million listings in 34,000 cities and 190



THE GOOGLE GLASS EXPERIMENT

Development of Google Glass began in 2010. It was developed by Google's secret Google X research lab, the facility exploring new technologies beyond Google's core business. In April 2012, Google co-founder Sergey Brin chose a fundraising event for the Foundation Fighting Blindness for the first public appearance of the Google Glass prototype. In an interview, Brin elaborated on the motivations that led to the new concept of Google Glass. It came down to a series of questions. He questioned whether we should be "walking around looking down" at our smartphones. He asked, "Is this how you want to connect to other people in your life, how you want to connect to information?...Is this what you were meant to do with your body?" Instead, Google designers wanted to make something "that frees your hands...frees your eyes".

The Google Glass prototype comes in five colors, is worn like eyeglasses and weighs about the same. Though, instead of lenses, there is a display that is activated by a 30-degree tilt of the head or by a tap of the touchpad. Just above the right eye, a semi-transparent prism reflects an image or 10-word max text from a LED projector directly onto the retina. Navigation is conducted through simple voice commands or by swiping and tapping the touchpad. The touchpad, battery, and other electronic components are housed in the right-side arm. The plastic casing with a processor, camera, and display are also on the right side. Google Glass can be connected to Wi-Fi and Bluetooth.

When Google went to market with Google Glass, it was still an early prototype. Glass product manager Steve Lee explained the

decision to start public beta testing so early:

"We debated this decision extensively. Major new consumer tech products are rarely brought out of the lab at this stage of development. But we knew that by putting prototypes into the wild, we'd start to learn how this radical new technology—something that sits on your face, so close to your senses—might be used. Some of the most compelling use cases for Glass are outdoors, so it would have been hard to test the product only through Google employees in our own offices. And unlike a new phone, which you can slip into your pocket, you can't hide Glass. Most importantly, we knew that Glass would be unfamiliar and would raise questions about social acceptance, so we wanted to start a public discourse early. In doing so, we hoped to better shape the way the product's story would be told over time."

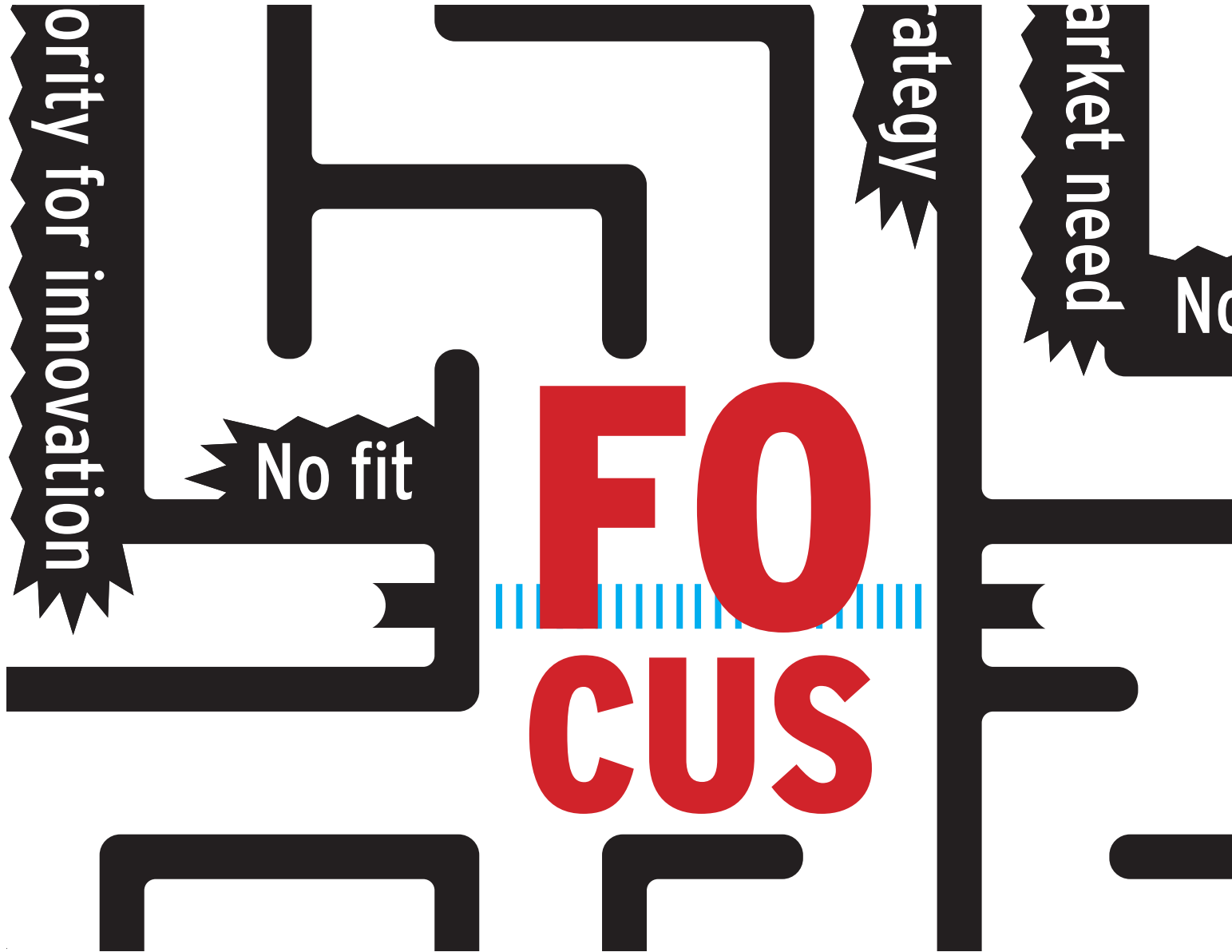
There was massive hype in the pre-launch period of Google Glass. In spring 2013 Google invited third-party developers to create the so-called Glassware. Among

THE BUSINESS CHALLENGE ROUTE: I FACE A BUSINESS CHALLENGE: NOW WHAT?

Market conditions can change spectacularly fast. You will be confronted with opportunities and threats like:

- ▶ Changing customer behavior due to newly available digital technology, which you do not yet provide and which in the long term will reduce your sales.
- ▶ Startups entering your market with quite a new offering, attracting a small innovative segment of your customers.
- ▶ A competitor coming up with a completely new business model, which you envy.
- ▶ The government changing the 'market rules' by liberalizing your market or changes their policy on subsidization of certain activities.
- ▶ Changing demographics, like a fast-growing elderly population.

Facing these business challenges, you have the choice of either being an active – or a reactive innovator. Active innovators, who want to innovate, give priority to innovation while company revenues are still growing. Before they reach maturity, they want to innovate to keep their revenue stream growing and stimulate an



FOCUS

How do you start innovation in practice? Often there's a senior manager experiencing an urgent need for something new, fueled by a business challenge. A new competitor may have entered the market; revenues may have decreased dramatically or a big contract has been lost. And something needs to happen: we must innovate. One essential point is often missed at the start: innovation ideas for what? That's the question! When you focus your efforts, you're much more productive. That's what this chapter is about: choosing a clear focus for innovation. I will give an example of Zumba's focus and show you how to draft a concrete innovation assignment.

CHOOSE A CLEAR FOCUS FOR INNOVATION

When you read the strategy reports of your organization, do you get a clear picture of the direction your organization is headed? Generally, strategic reports tend to be vague on innovation. Lots of times they mention that we have to innovate, but not how, where and for whom.

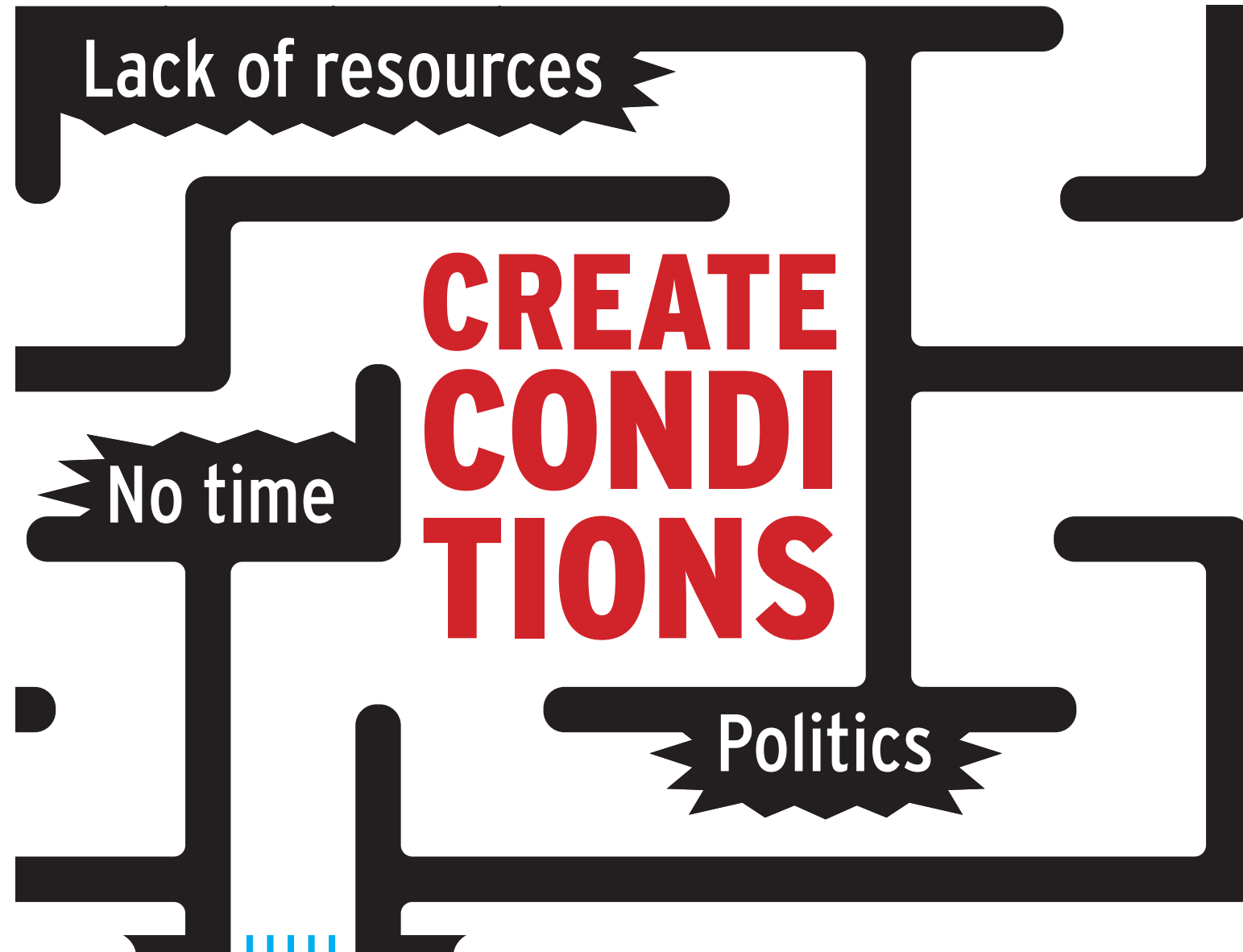
The innovation opportunities for your organization are infinite. There are hundreds of great ideas out there. You should guide and sometimes even restrict your activities in the front end of innovation to certain specific areas, as your resources are limited in terms of time, people and money. In practice, I have experienced that focusing increases the chance that you will find great opportunities that match your organization. The better you know what you are looking for, the easier it will be to spot it.

Apple is an example of a very successful company with a clear innovation focus. As Michael Schrage describes in his book *The Innovator's Hypothesis*: "Steve Jobs was a strategic value innovator. The numbers -not just his company's products - say so. Apple spent far less on research and development (R&D) than its competitors during its recent decade of rapid growth. Despite the competition investing more R&D dollars on both an absolute and a percentage of sale basis, Apple enjoyed significantly greater innovation returns. Did Apple have its innovation failures? Of course. But none were spectacularly expensive. Steve Job's company carved out remarkable safety margins in its innovation investment. How was that possible? Focus. Apple focused on its interface design and form factors, as well as facilitating elegantly simple and simply elegant user experiences. Lower prices matter less than higher perceived value."

Zumba, the popular fitness routine is a great example in the services industry of an explicit focus which provides clear criteria for assessing potential innovations. Zumba's founders rely on two simple rules that help them quickly identify the most promising innovations from the flood of proposals they receive. First, any new product or service must help the instructors—who not only lead the classes but carry Zumba's brand, and drive sales of products—to attract clients and keep them engaged. Second, the proposal must deliver FEJ (pronounced "fedge"), which stands for "freeing, electrifying joy". Read chart 21 for more on Zumba's focus.

SHOULD YOU FOCUS ON INCREMENTAL INNOVATIONS, BREAKTHROUGH INNOVATIONS OR BOTH?

Should you focus on incremental innovations, radical innovations, or both? This depends on your role and situation. Startups mostly enter a market with a radical innovation. Facebook, and Twitter created new markets with new-to-the-world offerings. Tesla, Uber and Airbnb broke into existing markets surprising the incumbents with their new-to-the-world offerings. Existing organizations are



CREATE CONDITIONS

Innovation can start as a slow hunch taking years before evolving into a real opportunity or it might start straight away as a result of an urgent business challenge. As I mentioned in chapter 3, innovation can start in various ways. It's not a question of how innovative you are. It's a question of *how* you are innovative! Regardless if you start with a business challenge, a (startup) idea, a technology or with a problem of one of your clients; it is essential that you create the right conditions for a successful journey through the innovation maze. We all know the journey will be full of hazards and the failure rate is extremely high. Therefore, preparing yourself well and starting under the right conditions will reduce your failure rate.

Of course you need a sufficient budget to start innovation. Though, it's worth mentioning, that money isn't the only factor in becoming a successful innovator. Studies show there is no statistically significant correlation between the financial performance and R&D spending of a company, in terms of either total R&D spending or R&D as a percentage of revenues.¹ There are additional important factors at play. In this chapter, my advice is to do at least four things right. Be sure to choose:

1. ... the right moment.
2. ... the right team.
3. ... the right leader.
4. ... the right route.

CHOOSE THE RIGHT MOMENT TO INNOVATE; THAT'S WHEN IT'S TIME TO EXPLORE

If there are great opportunities to easily grow your business either by up-selling or cross-selling present products or services, then my advice would be to wait and not to innovate at this time. My motto is to exploit first and then explore. Why? Because when your business is profitable, there is no urgency and motivation at all to start trying different things or doing things differently. So, don't innovate if:

- ▶ ... in the coming years your brand and line extensions bring you lots of extra turnover and profits,
- ▶ ... your organization is working at full capacity to meet the current huge demand, or
- ▶ ... your latest innovations are very successful and still need further exploitation.

Start innovating when it's time to explore instead of exploit. In practice, people go beyond their comfort zones only when they have to. As Max McKeown so wonderfully wrote in *The Innovation Book*: "The true parents of creativity are curiosity and necessity."² This is so true.

In practice, you see organizations deal with innovation in two ways: there are those companies that want to innovate and those that need to innovate. I call those that want to innovate the active innovators and the ones who need to innovate the reactive innovators. As you can see in chart 3, their roles are defined by the moments they really innovate their business. Every company,

4 TYPES OF INNOVATION CENTERS

Nowadays, there is a growing trend for companies to tap into new technologies, developments, products, and media by investing in various types of innovation centers.

In-house Innovation Labs

The innovation engine for their companies, these centers perform all innovation activities from inception to prototyping using an in-house approach. Given this in-house focus, these centers are typically large in size, with hundreds of staff. Walmart Labs, for example, is part of the Walmart Global eCommerce team, which runs Walmart's global websites. The two teams work in tandem so that e-commerce innovations can be seamlessly plugged into the websites.

University Residence

In this model, companies invest to set up a center at a university campus to drive innovation through university researchers.

One such center is the Volkswagen Automotive Innovation Lab (VAIL) established by Volkswagen and Stanford University's School of Engineering to drive innovation in automotive development. The Volkswagen Group has donated \$5.75 million to the creation of VAIL, including \$2 million for building construction and another \$750,000 a year for five years to fund research. Stanford researchers and international visiting scholars will work with automotive equipment manufacturers and Silicon Valley experts.

Community Anchor

These innovation centers actively identify mentors and provide opportunities to startups to work actively with the company to test the startup's products. The startups also gain from mentoring and the availability of mature processes to test their innovations. In its role as an anchor, Allianz Digital Labs invites early-stage companies, students and innovators to run

proof-of-concept pilots with the possibility of eventual licensing, development and commercialization on a large scale in areas such as Big Data, social media and mobile. Additionally, organizations might take an equity position in startups.

Innovation Outpost

Innovation outposts are small teams that are based in technology hubs, typically Silicon Valley. For large organizations, the idea is to be involved in the tech community, without committing significant investment. As time progresses, organizations can then choose to grow these innovation outposts to other forms of innovation centers. Take the case of Renault-Nissan. The company initially set up a small Silicon Valley Research Office in 2011 focusing on vehicle IT, advanced engineering research and technology recruitment. By 2013, the office was expanded to specialize in autonomous driving and connected vehicles. Similarly, Nestlé set up a Silicon Valley innovation outpost in 2013 with the aim of understanding customers better and work with large technology companies. The company has just announced that they intend to strengthen this team with more investment by Spring 2016.

Source

Capgemini Consulting, "The Innovation Game: Why and How Businesses are Investing in Innovation Centers", 2015. https://www.capgemini-consulting.com/resource-file-access/resource/pdf/innovation_center_v14.pdf

