

Tesla Transformation and Hidden Champions: The Pace of Innovation is the Only Thing that Matters in the Long Run.

Case study on Executive level

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Abstract

After having internally invested significant amounts of time and resources into customer-specific development, the CEO of CoMaTec - family-owned and mid-sized world-market leader in the automotive industry - receives the contract for batch production from emerging electric automotive giant TESLA. However, the timing for the final development stage and start of production (SOP) deviates distinctly from all prior agreements. The tightened timing would put his company at tremendous risk. Should he accept the contract? Which mitigation strategies present an option for managing the emerging risks?

Keywords

Transformation, change, R&D, innovation, culture, hidden champion, risk, mitigation, supplier relationship, TESLA, automotive

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Integrated Case Method

The case researcher has conducted primary research by collecting qualitative (interviewing top management) as well as quantitative data (hidden champions database) in the industry segment of mid-sized world-market leading automotive suppliers and developed a learner-centric, problem-based case study for management training (cp. figure I).

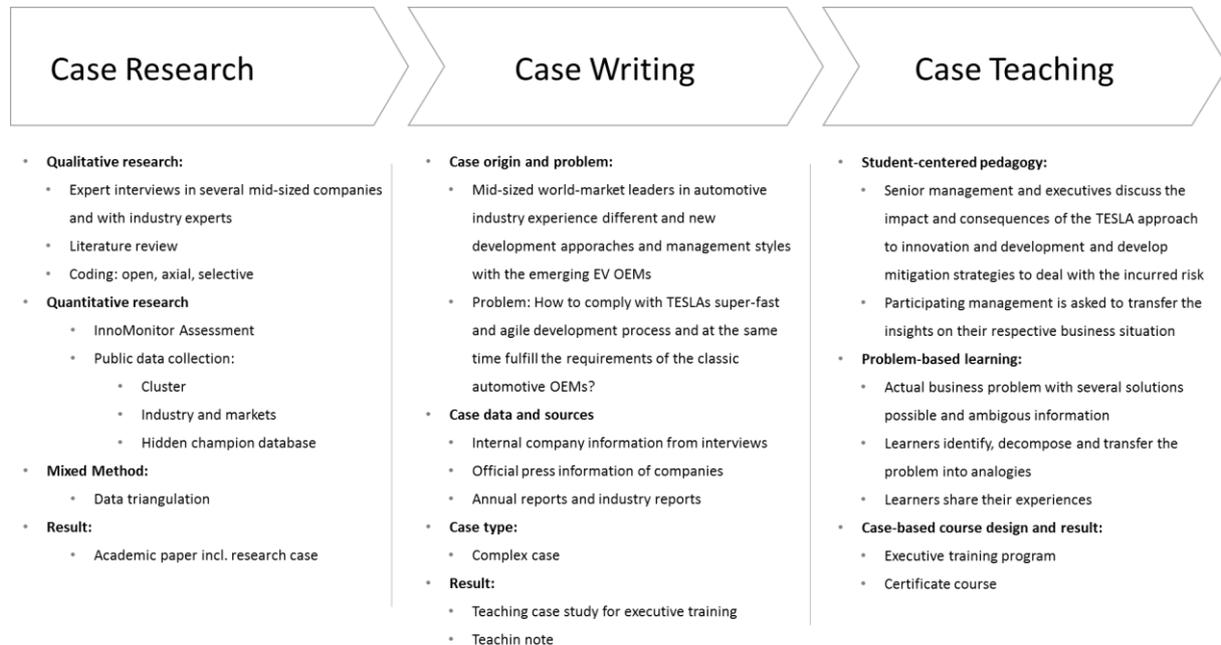


Figure I: Integrated Case Method

Disclaimer

Prof. Dr. Jan-Philipp Büchler is the author of this case study, which is intended solely for teaching purposes in management education at institutions of higher education. The case is designed to be used as the basis for course discussion rather than to illustrate either effective or ineffective handling of a management situation.

The case study at hand has been developed on the basis of a series of interviews with top management of several mid-sized market leaders in the automotive supplier industry. For reasons of data privacy, company names and protagonists have been changed. All illustrations and trademark rights are – unless explicitly indicated otherwise – corporate property.

The contents of the case study are carefully researched based on interviews with company representatives as well as publicly available primary and secondary sources. Nevertheless,

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Surprise

One afternoon in October 2021, Michael Schmitz, innovation manager of mid-sized world market leader CoMaTec stumbled into the office of CEO Darius von Falkenstajn and bursted out: “They are completely mad. We need to stop this ... it is not possible ... how the heck should we realize this?” Darius looked at Michael with a mix of surprise and suspense: “Michael, come down please and have a seat. What’s going on?”. Michael Schmitz was the head of the research and development department at CoMaTec and responsible for one of the most transformative projects ever in the history of the company: New ultra-leightweight casting parts of composite material for the new emerging electric automotive giant TESLA. “After one year of up-front development at high speed, we have just received the final contract of TESLA ... and everything is fine – except for the start of production date... “, Michael took a deep breath “... TESLA just fixed SOP six months earlier than agreed in all meetings. I mean, how should deal with this? We always had an agreement on October 2022 and now it is all of a sudden March 2022. You know that we are already pushing our organization and our suppliers like hell to achieve SOP in October at all. I am really lost.” “Did you talk to them already if ...” Darius started to ask. “No chance to negotiate Darius. They want SOP six months earlier. They are crystal clear in what they want”, Michael stated.

Darius studied the desperate look on Michael’s face and asked him with a calm and serious voice: “What do you need Michael? What could we do to make it happen?” Michael laughed: “I need at least six months or just half a year if that sounds better to you.” Darius smirked and replied: “I love your subtle irony. However, we should ask ourselves what needs to be changed in order to make it happen? You know, that our development and this special customer represents a massive opportunity for our company to achieve market leadership in the age of electric vehicles. Tesla is moving very fast, very focused. Tesla is twice as fast as the rest of the industry. So we need to move as fast as Tesla.” Michael felt lost and looked puzzled. Darius walked from his desk to the gallery of portraits of his company and family next to his office. He studied the portrait of his father who founded the company. Michael came up and contemplated about his start in this promising company several decades ago.

DNA for innovation

CoMaTec was established in 1955 in the hills of the Sauerland by Alfred von Falkenstajn an engineer and entrepreneur. In its early years, it had specialized in casting of metal parts for different industries such as packaging machinery or automotive industry. The founder steered the company to seize the most attractive market opportunities and threw himself into The ECASA project (2019-1-DE01-KA203-005037) is financed by Union funds (ERASMUS+). But the content of this document only reflects the views of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

development projects for new customers and markets. His ambition was admired and shared by his team and his son Darius who describes him as “an outstanding man with an irrepressible need to interact with the world on a level deeper than pure order fulfilment. His ambition was to improve continuously and even rethink existing technology to make the bigger step ahead.” No wonder, that spending for research and development was continuously at outstanding levels of around 10 % of sales. Darius valued and cultivated this heritage. He had promised to his father before his death: “We are a technology company and we love to develop and set our own standards. I will continue our path.” He would reduce all kinds of expenses, but never compromise on technological progress, research and development and last but not least patents. Over time, the company had developed a strong position in the premium segment for structural parts and covers made of metal, plastic and since a few years also in compound materials for the automotive industry where it holds several world-market leading positions.

Darius focuses his decisions on sustainable business development. He sharpened the strategic mission of the company and framed it as “all-electric society”. He deeply believed in the benefits and opportunities of electric mobility. Darius was fascinated by the transformation going on. He was convinced that CoMaTec could play a key role in this transformation due to its technological knowledge and vast experience in lightweight construction, which would be paramount for decreasing car weight and increasing range. For economic and ecological reasons, lightweight constructions, in particular made by fiber-reinforced plastics, play an increasing role in civil engineering as well as in mechanical engineering. Applications are automotive bodies made of CFK (carbon fiber reinforced plastic) or bridges made of GFK (glass fiber reinforced plastic).

In 1991, CoMaTec started a rapid wave of internationalization and achieved global sales growth of around 750 Mio. € by entering the most important automotive markets around the world and partnering with all automotive OEMs around the globe. The company focused on establishing wholly owned subsidiaries in Eastern Europe, North America, Russia and Asia. Whereas most subsidiaries were initially sales and customer service centres, new production plants were also set up in Poland, Russia and China. Today, the company employs around 1.000 workers in production and around 300 engineers in different development functions and three R&D labs on two continents as well as plant management. Additionally, almost 300 colleagues work in administrative tasks and sales or controlling.

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Success factors for market leadership

The company put an immense effort to develop and maintain its industrywide reputation for rapid, on-time delivery of high quality parts at competitive prices. The CEO focused on four key elements of his company's strategy for meeting these objectives:

- (1) a highly skilled and well-paid work force with deep loyalty to the company,
- (2) an engineering department with a high degree of freedom and high patent output,
- (3) state-of-the art machines and tools,
- (4) a strong emphasis on inspection, validation, certification and quality control.

Darius knew that the good reputation of highest quality has helped the company to become one of the global market leaders in their domain. CoMaTec received several supplier awards for quality management and zero defects from almost all automotive customers worldwide. The company operates its validation and certification procedures for new product development, improved parts and standard items on highest maturity levels and in accordance with the requirements of the automotive OEMs. Darius knew very well that more than eighty percent of sales volume and profits accrue to business with classic automotive OEMs.

Frankfurt Calling

As his phone rang, Darius startled out of his thoughts. Marcus, an old friend from Frankfurt was calling – he was senior consultant for the automotive industry. “Boom Chicka Boom ... Frankfurt Calling, dear boy. How is life? Any plans for tonight? The battery of my new model X is just powercharged and I could offer you a nice ride tonight ... nice food, elegant party...any objections?” Marcus boasted out of the phone. Darius gave just a short answer, as he did not have any party feelings due to the tough decision to make. His friend noticed quickly that Darius was very busy. “We can talk later, if you want so”, Marcus proposed. “No. ... ah it's OK. I need to take a tough and risky decision and may be you might want to hear it and give an advice from your experience and guts feeling”, Darius answered. He explained the whole situation to Marcus: “The decision is hard to take. We invested a lot to win TESLA as a customer because we believe in the system change and in TESLA as being the most powerful driver of the automotive transformation. My teams are highly committed and we are able to out-innovate competitors. However, accepting these tight deadlines means to give a guarantee to fail ... to disappoint TESLA, to not meeting our own standards ... This puts my company at huge risk, if ...” Darius finished.

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“... if TESLA is going to sue your company. I understand. You know, I have learned in the past years that TESLA always defines super tight timings and in the end, these timing are rarely kept. Fun fact: It’s most often TESLA themselves exceeding the time-limit.” Marcus explained.

“This is not really comforting and it is no fun at all being sued by TESLA like Hoerbiger Automotive” Darius added. “Why are they pushing so hard deadlines, if they do not meet them either?”

“They are the most ambitious and transformative company in the world. They are still super-fast if they miss their ambitious deadlines and they are much faster than the entire industry. Consequently, they want all of their suppliers to be as ambitious and as fast as possible. They want to see you outperforming the industry and setting new standards”, Marcus explained. “I mean that is what you guys are able to do, aren’t you? Your father trimmed the company on high performance innovation, did he?” Marcus teased his old friend.

“We might be able, yes, but ...” Darius started.

“... but the most important is that you are not the first supplier to fail and exceed the time-limit, right?” Marcus tried to complete the sentence.

“You are not taking any risks. That is why you can easily talk in this way. I really mean, we might be able to some extent – perhaps reduce timing further by three to four months. This would allow us for SOP in July 2022, but not as much as they push us, because we want to give a guarantee on what we promise. ... I mean ... well ... at least we could do faster, but not in line with our processes, validations, certificates and quality system.”

“Hey, come on. This is what TESLA wants you to do and what they know and feel. You can do faster than November and that is what they want. By the way ... my model X is far from perfect and there are folks out there who laugh at the clearance of the TESLA chassis, but this is old German engineering mind-set of owning a fixed set of perfect hardware. Should I tell you what I think? The car of the future is a software product and this will be continuously updated and further developed. We live in the beta version. Accept the beta feeling and implement it in your company. Change your mind to change the world, old friend”, Marcus proclaimed.

“Well thank you very much Marcus. You gave me interesting food for thought. I am out for tonight, because it might be Fremont calling later on...” Darius joked.

“Yepp. This is what I like to year, old boy. Stay tuned and keep me posted. Cheerio” Marcus disbanded.

Darius was left with a puzzle of thoughts: Would this be the attitude and mind-set of my father? Does this attitude of a beta feeling match with the culture and attitude of CoMaTec? He would The ECASA project (2019-1-DE01-KA203-005037) is financed by Union funds (ERASMUS+). But the content of this document only reflects the views of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

need to transform the company, as the industry transforms as well. Michael stood invariably like a soldier in front of the portrait of Alfred.

Transformation is in the Eye of the Beholder

Suddenly Darius turned towards Michael and asked him: “What would Alfred do?”

“His time was way easier compared to ours”, Michael responded. “Today the industry is transforming at an astonishing pace and new market players entered the stage: Fisker, Lucid, Rivian and many more follow the TESLA trail of transformation. I think they are of the same kind, but totally different from the existing group of automotive giants.”

“Well, at least they bring a new and fascinating mind-set to the industry. They develop and build cars, as they develop a software product. They accept beta-versions, launch imperfect products in the market and improve these products continuously based on real-time data and customer feedback. Development cycles and lead times reduce dramatically. Innovation and customer orientation become an omnipresent and shared activity for all people in the company. I think my father would love this agile and ambitious attitude”, Darius replied.

“Most industry titans laugh about these nerds from the valley. The consequence is poor car quality and dramatically reduced variety. I am sure that Alfred would not appreciate this a lot”, Michael stated.

“Our industry titans correct their opinion already. The wind of industry change has become a stiff headwind for most of the old automotive OEMs and you know that our younger engineers love the game changers”, Darius said.

“Well, that’s true. All of the latest hirings of engineers were realized because of our TESLA development project. This opportunity thrills our engineers and we recruit currently top-notch people”, Michael admitted. “I also wonder about the creepiness of many old industry titans and veterans in the European and especially German car manufacturing industry”.

“My father always said that the pace of innovation is the only thing that matters in the long run”, Darius explicated. “This incurs risk taking in many ways. If we want to be part of the new game in the automotive industry, we need to play by the new rules of the game. That is high speed innovation. We will make mistakes. We should just make some fewer mistakes and should make them earlier than our competitors.”

“If you decide for GO and sign the contract, we are forced to leave our known pathways, routines and procedures. It will be new territory. We would need to skip validation process and

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dramatically reduce certification requirements and we need to get our suppliers on-board for cooperation and ultra-fast fulfilment”, Michael explained.

“Did you check if TESLA will accept fewer validations and certifications?” Darius asked him.

“Well, that’s the way how they are used to work and how we have worked all the way down with them so far. We are not used to it yet, but it will work out, if you give permission. Nevertheless, this idea of development without a clear and established process troubles me a lot and should not become the new normal for our company”, Michael muttered under his breath.

“You will never change an industry with a clearly defined process and roadmap ... it will take entrepreneurial spirit and we have this spirit. We need to be part of this transformation and we will only be part of it, if we really want to lead it”, Darius emboldened Michael.

“That is true. But we simply cannot gain this speed and attitude towards our classic OEMs. This will not work out. We are not able to speed up with them due to their rigid processes”, Michael added. “I will set up a global task force and you need to be on-board. We meet tonight at 8 pm in order to touch base with our American colleagues”, Michael said.

“Deal!” Darius said and made a high five with Michael. “I just need to cancel some appointments tonight and in the next days. Start to drum up the team.”

After Michael has left the office, Darius looked at the portrait of his father. Shifting business was risky and he would certainly steer the company into shallow waters. At the same time, he needed to move the business into new waters of growth opportunities and he felt that the innovation capabilities of his company fit quite well with the ambition and attitude of TESLA and other EV manufacturers. How could he make his decision a success?

1. Teaching Note

Target group: Middle and Senior management of diverse companies and their career path and training to develop towards executive management positions.

Teaching objective: The case study invites learners to:

- reflect and discuss about taking transformative decisions under uncertainty incurring significant risks
- share experiences and find analogies in various application contexts in order to develop decision support or guidance
- decide on appropriate mitigation strategies

Learning Outcome: Learner should be able to:

- describe and apply an appropriate management frameworks to analyse and evaluate the situation and prepare decision-making
- develop a systematic approach for assessing and deciding on appropriate mitigation strategies.

Case Type

This case is a complex case on business transformation.

Case Format

The case is paper-based and can be supported by infographic, video interviews and photographs.

Evaluation criteria:

Evaluation shall take place based on the following criteria

Evaluation criteria	Weight
research and analysis	high (30%)
problem solving	high (50%)
communication	moderate (20%)

Grading:

The case teacher moderates the case and triggers discussions, transfer of insights and experience. There are no right or wrong answers and no classical grading.

Preparation

We recommend that learners should have a read of the following research studies:

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- Böhler 2021: TESLA und die Deutschen Hidden Champions: Technologie, Teile und Talente – Hidden Champions ticken wie TESLA, Dortmund.



- Böhler 2022: TESLA und die Deutschen Hidden Champions: Tanz der Roboter – Hidden Champions bauen die Fabrik der Zukunft, Dortmund.



Both research studies are available as OER content on www.innovationexcellence.eu

Additional preparation is recommended by studying the following pre-reads:

- Kaplan, R.S. / Mikes, A. 2012: Managing Risks – A New Framework; *Harvard Business Review*, Vol. 90 No. 6, pp. 48-58.
- Simons, R.A. 1999: How Risky is Your Company?; *Harvard Business Review*, Vol. 77 No. 1 pp. 85-94.

Instruments

The case study is designed to teach and apply the following strategic management tools:

- risk exposure calculator (Simons 1999)
- risk event card (Kaplan / Mikes 2012)
- risk report card (Kaplan / Mikes 2012)

Additional Readings & Impulse

- Christensen, C. / Raynor, M. 2003: The Innovator's Solution – Creating and Sustaining Successful Growth; Harvard Business Review Press, Boston, MA
- Kaplan, R.S. 2009: Risk Management and the Strategy Execution System; *Balanced Scorecard Report* 11, No. 6 (November–December 2009), pp. 1–6.

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- Kaplan, R.S. 2011: Managing the Multiple Dimensions of Risk; Part 1; Balanced Scorecard Report 13, No. 4 (July-August 2011), pp. 1–6.
- Kaplan, R.S. 2011: Managing the Multiple Dimensions of Risk; Part 2; Balanced Scorecard Report 13, No. 5 (September-October 2011), pp. 1–5.

Discussion Outline:

Starting the discussion could be supported by showing one of the following cartoons:

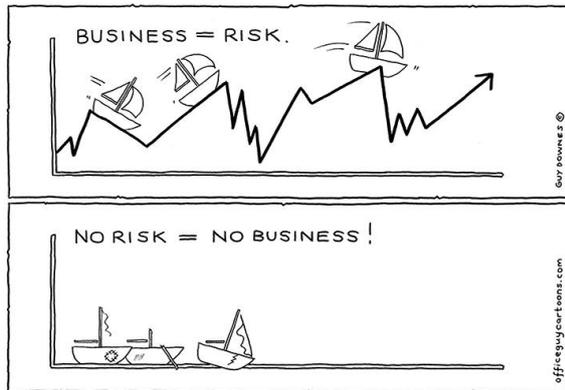


Figure TN 1: Risk Cartoons

and followed by a set of questions on the case problem and protagonists:

1. What is your definition and understanding of risk?

Participants might give answers such as:

- (negative) deviation from business plan
- exposure to loss or high probability of financial loss
- different categories of risk: preventable, external, strategic

Collect all answers on the black board.

2. What kind of risk is Darius von Falkenstayn facing?

With reference to the reading of Kaplan / Mikes (2012) the discussion could be directed to the risk framework for assessing this risk as a strategy risk:

Risk Category	Measurability	Knowledge	Risk Assessment Approach	Risk Mitigation Objective	Control Approaches
I: Preventable Risks	<i>High:</i> Probability and impact can be measured	„known knowns“	<ul style="list-style-type: none"> Self-assessments Diagnostic controls Operational loss databases 	<i>Drive incidence of occurrence to zero!</i>	<ul style="list-style-type: none"> Mission and value statement Internal control boundary system Internal audit Compliance office
II: Strategy Risks	<i>Medium:</i> Probability and impact can be estimated	„known unknowns“	<ul style="list-style-type: none"> Risk maps (nominal scales) Statistical risk estimation models 	<i>Reduce likelihood and impact in cost-efficient way!</i>	<ul style="list-style-type: none"> Risk indicator score card Risk mitigation initiative Risk review at strategy meetings
III: External Risks	<i>Low:</i> Risks can only be envisioned	„unknown unknowns“	<ul style="list-style-type: none"> Risk scenario analysis, Business war gaming 	<i>Reduce impact in case of occurrence!</i>	<ul style="list-style-type: none"> Contingency planning Insurance and hedging programs

Figure TN2: Risk Framework

3. *Does he need to take this risk and should he?*

The discussion should be managed towards the development of a set of criteria for evaluation. This would incorporate a lot of experience as well as estimation of the course participants. The role of the case teacher is to moderate the discussion, stimulate experience and collect, discuss potential criteria. Closely linked to this decision is the development of mitigation strategies.

4. *Should we discuss risk here at all or rather opportunity-seeking, entrepreneurship, corporate venturing or innovation?*

This question activates participants to reflect their perspective and to differentiate important attitudes as well as concepts such as corporate venturing (which could be also part of mitigation strategies).

5. *What does the term and definition of the problem tell us about culture and attitude?*

The case teacher should direct the discussion towards the “ideal” of a risk-taking, entrepreneurial and innovation-oriented culture. What are the key building blocks of such a culture? An additional reading and impact could be made with the chapter “How to manage the Dilemma of Investing for Growth” by Christensen, C. / Raynor, M. (2003) *The Innovator’s Solution – Creating and Sustaining Successful Growth*; Harvard Business Review Press, Boston, MA. pp. 242.

The second part of the case discussion should focus on transfer:

- 1) Please describe your companies’ strategy risk and describe how you deal with them.
- 2) Which attitude towards risk do you see in your company?
- 3) How would you assess the riskiness of your company?

To this end, participants could make an assessment on the basis of the risk exposure calculator developed by Simons (1999):

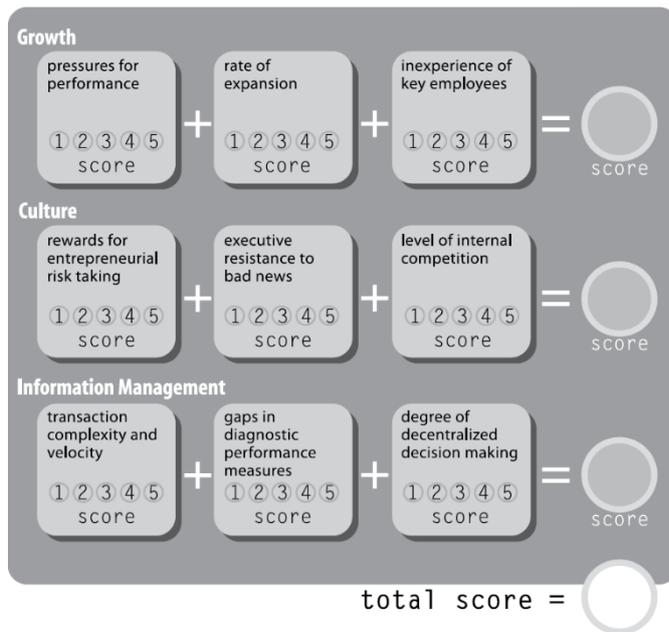


Figure TN 3: Risk Exposure Calculator

Source: Simons, R. (1999) How Risky is Your Company? Harvard Business Review, Vol 77(3), pp.85-95.

The following questions should be answered and afterwards calculated by the participants:

- How much pressure is there on the business and the responsible managers to meet the performance targets? [1 = little or none, 5 = a lot]
- How fast is the business growing? [1 = fairly slowly, 5 = very fast]
- How inexperienced are people at what they do? [1 = very experienced, 5 = very inexperienced]
- How much of the total potential rewards given to employees come from entrepreneurial risk taking? [1 = very little, 5 = high proportion]
- Does senior management try to avoid hearing bad news? [1 = not at all, 5 = all the time]
- How much competition is there between managers, between departments and between divisions? [1 = very little, 5 = a lot]
- How much of the total potential rewards given to employees come from entrepreneurial risk taking? [1 = very little, 5 = high proportion]
- Does senior management try to avoid hearing bad news? [1 = not at all, 5 = all the time]
- How much competition is there between managers, between departments and between divisions? [1 = very little, 5 = a lot]

After calculating the sum of all answers, participants should reflect their risk position:

- **Score 9 to 20: The Safety Zone:**
Your organization is probably very safe. But is it also stifling innovation, creativity and sensible risk taking? And as a result, is it making the most of the opportunities?
- **Score 21 to 34: The Caution Zone:**
This is probably the best place to be. You are probably reasonably safe. And you are probably also making good use of your opportunities. But watch out if you score more than 12 in any of the three sections of the calculator you may be exposed.

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- **Score 35 to 45: The Danger Zone:**
You are in the danger zone. Start taking action now to address the areas of highest risk