Innovation & Failure The Basis for Building the Future.

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- Business School and Engineering School
- Graduate and under graduate
 programs
- Executive Education
- Custom tailored programs, certificate programs, Executive MBA / MSc, Executive PhD Program



Jonathan

Born in Nov. 2016







Resource usage.



"... the creation and adoption of more efficient and appropriate technologies is a necessary part of any solution."

Foray, Mowery & Nelson (2012, p. 1697)

".... Vor dem Hintergrund großer gesellschaftlicher Herausforderungen [ist] soziale Innovation in den Blick zu nehmen."

EFI (2016, 21)

"... everyone realizes that the grand challenges can't be solved by one group [alone]."

Moedas (2016)



Everybody does.



What is about to come.

1. Approaching failure 2. Innovation & failure 3. Learning from failure is good 4. Learning from failure is hard 5. What can we do?



Failure describes activities that fall short of expected or promised outputs or outcomes.



Is failure really the mother of innovation?

Sloan

Failure and innovation

Analysis of more than 1,200 German innovating firms

Correlation of failure and innovation is inverted u-shaped

 If the failure rate < 20%, failure and innovation are positively related:

the higher the failure rate the more innovative the firms are.

 If the failure rate > 20%, failure and innovation are negatively related :

the higher the failure rate the less innovative the firms are.

Learning is crucial.

We attribute the findings about the positive effcts to the fact that failure is a good opportunity for learning.

Learning from failure is even more instructive than learning from success. If the failure rate < 20%, failure and innovation are positively related:

the higher the failure rate the more innovative the firms are.

 If the failure rate > 20%, failure and innovation are negatively related :

the higher the failure rate the less innovative the firms are.

Ebersberger & Petersen (2016)

Learning from faiureis gooe.



Sometimes new perspectives are more powerful than just being smart.

Astro Teller

"Fail fast and cheap. Fail often. Fail in a way that doesn't kill you."

Seth Godin

"If you want to succeed, double your failure rate."

Thomas J. Watson



Failure is not the secret sauce for success.

Learning is the secret sauce that might turn failure into success.



Learning from faiureis hard

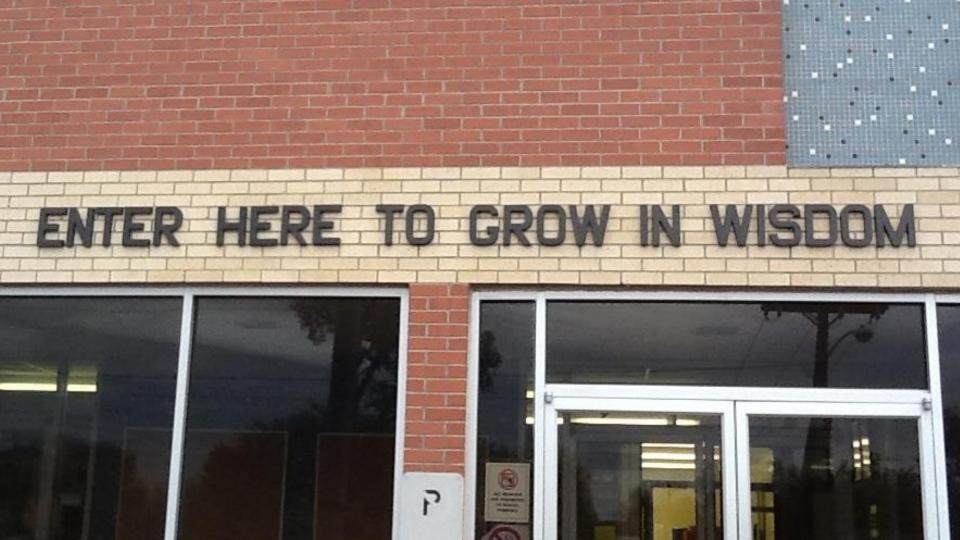


Biases lead to wrong decisions

- Overconfidence
- Confirmation bias
- Illusion of predictability

How does it feel to be wrong?

It feels like being right



Why am I right and others wrong?

- Ignorance
- Idiocy
- Evil





We all have the capacity to skrew up.

St. Augustin



Failure attracts attention within the organization.

Failure causes negative emotions.

These negative emotions are called grief.

(Shepherd 2003)

Failure causes grief.

Because it questions competence, relatedness, and autonomy. For coping with grief there are two approaches

Grief orientation
 Restoration orientation

Grief orientation

1. Think about the events leading to the failure

2. Build a rationale why this happened





Restoration orientation

 Distraction from failure = not thinking about it

2. Proactivity for second level stressors

Best results



Oscillating between grief orientation and restoration orientation.

Dilemma: Feeling grief hampers learning. What can we do?

Three Approaches:

Failure part of the culture
 Normalizing failure
 Emotionally capable organization

Failure as part of the culture

1. Make it safe to fail

- 2. Make failure the path of least resistance
- 3. Enthusiastic scepticism

Normalizing failure

1. Failure is part of what you do.

2. Desensitize your employees to failure and rejection.

Emotionally capable organization

- 1. Establish rituals
- 2. Provide social support
- 3. Learn to oscillate
- 4. Be humble and appreciative towards failure

Zotter's graveyard of ideas.

Zotter manufactures chocolates with the most delicious fillings.

- Failed ideas (e.g. Café, Flag-Ship)
- Failed receipes & flavors (e.g. string bean & onion)
- Successful but replaced flavors (e.g. pineapple & pepper)
- Exhumation is possible (pink coconut & trout marshmallow)



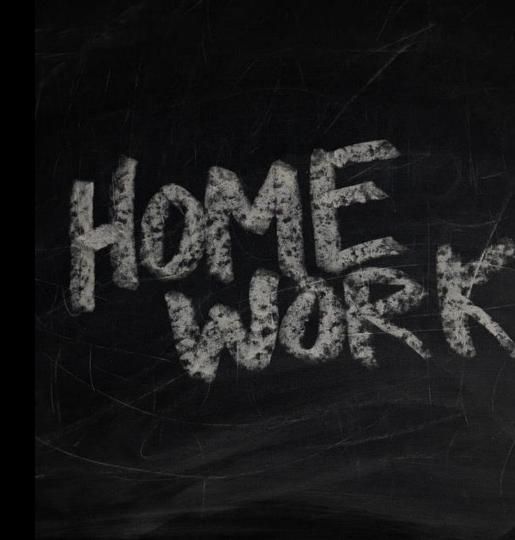


- Challenges of the future require innovative solutions.
- Innovation activities have the potential for failure.
- Failure is a great opportunity for learning.
- Failure causes negative emotions.
- Your organization can only learn from failures when it can handle those negative emotions.

Innovative organizations have to be more appreciative and humble towards failure!

As leaders of those organizations take the first steps right away!

Be appreciative and humble towards failure!



Your CV of failure

- Retreat to your office
 Write down a CV with the failures you experienced and what you learned.
- 3. Every now and then: Read it.



Let me know how you are doing with your CV of failure.

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The megatrends are inspired from https://www.gdch.de/fileadmin/downloads/Netzwerk_und_S trukturen/Fachgruppen/Vereinigung_fuer_Chemie_und_Wir tschaft/va_februar_2013/2_eberl.pdf

The information about Zotter's graveyard is based on personal communication with Zotter.

The introductory quotes are from

Foray, D., Mowery, D. C., & Nelson, R. R. (2012). Public R&D and social challenges: What lessons from mission R&D programs? Research Policy, 41(10), 1697–1702. doi:10.1016/j.respol.2012.07.011

Expertenkomission Forschung und Innovation (EFI). (2016). Gutachten zu Forschung, Innovation und technologischer Leistungsfähigkeit Deutschlands. EFI. doi:10.1007/s11619-006-0002-z

http://www.nature.com/news/europe-s-research-commissioner-lays-out-his-ambitions-1.17165

The research about the correlation of innovation and failure is from Ebersberger & Petersen.

Ebersberger, B., & Petersen, S. S. (2016). Fail(ed) to succeed. In Building bridges Proceedings of the FFH. Vienna.

Some ideas about making failure part of culture are from Astro Teller's TED Talk (https://www.ted.com/talks/astro_teller_the_unexpected_be nefit_of_celebrating_failure#t-916932). So is the quote.

The research about the correlation of innovation and failure is from Ebersberger & Petersen.

Ebersberger, B., & Petersen, S. S. (2016). Fail(ed) to succeed. In Building bridges Proceedings of the FFH. Vienna.

The ideas about the emotional effects of failure are taken from Dean Shepherd and his collaborators' work.

Ucbasaran, D., Shepherd, D. A., Lockett, A., & Lyon, S. J. (2013). Life After Business Failure : The Process and Consequences of Business Failure for Entrepreneurs, 39(1), 163–202. http://doi.org/10.1177/0149206312457823

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The discussion of wrongness is inspired by Kathryn Schulz.

Schulz, K. (2011) Being wrong: Adventures in the Margin of error. New York: HarperCollins.

Failure as the mother of innovation is a phrase taken from <u>http://www.innovationmanagement.se/imtool-</u> <u>articles/failure-is-the-mother-of-innovation/</u>. And so is the quotation.



MCI: by MCI

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Shattered Glas 2: http://maxpixel.freegreatpicture.com/Shard-Cut-Glass-Breakage-Broken-Sharp-Glass-1355707

Wrong Way: by Petr Kratochvil http://www.publicdomainpictures.net/viewimage.php?image=196380&picture=wrong-way-sign

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