

Increasing uncertainty in order to innovate (26)

[00:00:02] I mean you only learn and you only innovate if you expose yourself to uncertainty right otherwise it's just routine and you do everything you've always done and you know.

[00:00:12] That step really into the uncertain and we argue that that's actually a good step to take and currently people look at us "are you crazy, I mean we have plenty of uncertainty

[00:00:23] leave us alone with that.

[00:00:27] This is the ETH podcast I'm Jennifer Khakshouri, your host. This episode is part of the uncertainty series. What is uncertainty,

[00:00:36] and how vital is it to speak up when it comes to stressful and uncertain situations? We'll find out in this episode. I'm Nadine Bienefeld, I'm a team and human factors, researcher

[00:00:47] and I'm interested in what makes teamwork successful.

[00:00:52] Especially in stressful high-risk settings such as in healthcare and in aviation. How do you define uncertainty regarding

[00:01:00] your field of research. Uncertainty is something that makes people uncomfortable at the same time it's the only chance for learning.

[00:01:11] Is uncertainty the only chance of learning?

[00:01:14] This question is something I want to keep in mind and get back to you later. Nadine is the senior researcher and lecturer in the team of Gudela Grote.

[00:01:24] I'm a professor of work and organisational psychology at the Department of management technology and economics at ETH Zurich. How would you define uncertainty in a nutshell?

[00:01:34] I usually just say uncertainty is not knowing for sure,

[00:01:38] a very basic definition many people also describe uncertainty in terms of unpredictability

[00:01:46] so I guess uncertainty often this just about the future also. You can be uncertain about the task that you do which is mostly would we focus on

[00:01:54] and we as work psychologist and organisational psychologist we will look at those settings, but obviously, we can also be uncertain about yourself you can be uncertain about the state of the world all sorts of things but it is really that

[00:02:07] in a way you don't have the knowledge that you feel you would want to have to be good at whatever you want to do. There are very many layers,

[00:02:16] how do you deal with blurriness with the not very focused lines around the answer? We are actually struggling with that because I'm the empirical research we do, I mean obviously, then we try to somehow measure and uncertainty

[00:02:31] and we've tried all sorts of different ways but we don't have the one good way of measuring yet,

[00:02:37] I guess uncertainty is a fundamental human emotion and yes it sounds logical that feelings are hard to measure.

[00:02:45] Nadine is doing what she does for a reason, well this sounds obvious too I guess everyone has reasons for things they do or don't do but what I'm trying to point out as Nadine mentioned that her focus lies on stressful such as medical environment.

[00:02:59] but also on aviation. Well, before my studies I flew for Swiss Air and absolutely loved to travel and discover the world.

[00:03:08] Then on September 3rd 1998

[00:03:12] I was scheduled to fly from Geneva to New York all packed and ready as I had made plans to celebrate my birthday in New York the following day.

[00:03:21] And then I was woken up that day by a phone call from crew control telling me that the plane I was scheduled to fly over

[00:03:30] had crashed in the night in the Atlantic Ocean.

[00:03:34] Killing everyone on board.

[00:03:43] Swiss Air 111, just a couple of miles I'll be right with you.

[00:03:55] Swiss Air 111, check your check your ...

[00:04:03] Music.

[00:04:10] That was a decisive moment in my life the Swiss Air 111 Halifax accident.

[00:04:15] And it really motivated my interest to research teams, what makes them safe, how people speak up in moments of uncertainty.

[00:04:25] And why they don't which is more often the case.

[00:04:29] Halifax - the name has become synonymous with a painful period in Swiss history. I remember how the crash on my radio alarm clock woke me up.

[00:04:39] And how I couldn't believe the bad news, it still moves me till today when I think of that plane crash and all the families who lost loved ones.

[00:04:49] This accident changed Nadine's life in terms of her career path, as she says her focus lays on human factors and issues such as speaking up.

[00:04:58] The goal of speaking up or as she calls it "clarifying voice" in her latest paper together with Rebecca Meinhardt from Harvard Medical School.

[00:05:08] Clarifying voice is to bring everyone on the same page in a team because critical information may be missing and because people and high hierarchical position,

[00:05:18] might be just as vulnerable to fall into the trap of cognitive biases. speaking up

[00:05:23] should not be put in the same category as criticising or providing unwanted feedback,

[00:05:33] or even whistleblowing. These are completely different constructs. Speaking up in itself should just be wanting to bring in an idea,

[00:05:43] wanting to raise attention to something that somebody has observed that might be relevant or mission-critical.

[00:05:51] Or pointing out errors that are about to have consequences that can be avoided.

[00:05:56] So I think it's very very important and lots of people if not most - even those that have gone through decades of training - on speaking up still

[00:06:05] confuse it with these other constructs and they also still think psychological safety is to do with being happy clappy touchy-feeling. A harmonious team - it is really the opposite.

[00:06:18] it's you want to create friction, you want to have a candid discussion.

[00:06:22] From my experience working in the newsroom for quite some time I know that sometimes speaking up in extremely stressful situations is not easy and often leads to crazy discussions

[00:06:33] the absurdity is that it isn't about life and death in the newsroom. of course it's essential to get information out correctly but the news room is not open heart surgery

[00:06:44] In the case of Gudela

[00:06:46] We've done trainings here with anaesthesia teams in the university hospital and we've looked at anaesthesia induction I mean where people then are ready to be ventilated, right.

[00:06:58] and one difficult bit there is to get the tubus into the lung, right and it might end up in the stomach or it might end up nowhere so this is kind of a tricky moment for people.

[00:07:08] even under normal circumstances and then we had kind of simulated situations with a mannequin, right, not a real patient where for some reason that person really could not be intubated in the regular way.

[00:07:21] And you have kind of an experience and they just keep trying trying in the happened real cases of that I may people have died because of that

[00:07:30] in that real example actually also then the nurses immediately realised this is a particular situation. but you just know you have to cut open to intubate the person, right, and then people don't want to do this is a trained scenario.

[00:07:46] And still I mean you would find people there for 30-minutes try to intubate a patient in a regular way and in that real case the the nurses there just brought

[00:07:56] that surgery set to do that cut, right. But they won't speak up to say do that cut. No, they just kind of put it there and then in that case I guess as much as they could reconstruct what happened.

[00:08:08] The anaesthetist just kind of looked at it "why would I need that?" and then they kept trying and trying. And they'd lose a person. In that case really that person died and her

[00:08:18] Husband is a pilot so he used that to say we need more human factors training as we have

[00:08:25] in cockpit cruise. This pilot Gudela is talking about is in a short documentary film called

[00:08:34] Just a routine operation.

[00:08:38] My name is Martin Bromiley, I'm dad to two young children, Victoria and Adam and this is the story of

[00:08:47] the death of my wife Elaine who died in March 2005 as a result of an attempted routine operation that went wrong.

[00:08:58] I'm an airline pilot with a background in human factors. I want to make a difference, I want to be able to say to Victoria and Adam

[00:09:07] In a few years time that although their mum died the lessons from that are being learnt.

[00:09:14] And that there is a change in practice in healthcare in the UK.

[00:09:19] The film is more than heartbreaking and it's a wake-up call if anyone is hesitating ever to speak up. In this documentary Martin talks about losing his wife during a routine procedure.

[00:09:31] With this documentary he is hoping to make a change to practice in healthcare.

[00:09:37] It's often about hierarchy right and that obviously then increases uncertainty even more,

[00:09:43] and we've done surveys also why would people not speak up and then obviously hierarchies sustain and you'll feel like they won't listen to me anyway or I might even be punished if I speak

[00:09:55] so there's various reasons why you don't do it and it's all we would argue it's actually around uncertainty so you have to overcome in a way that uncertainty for yourself

[00:10:04] To be ready in some situation and to increase the uncertainty for others.

[00:10:11] At the beginning of this episode Nadine said:

[00:10:15] Uncertainty is something that makes people uncomfortable, at the same time it's the only chance for learning.

[00:10:26] Remember it's almost a year ago now since the first wave lockdown happened and I remember how uncomfortable I had felt not knowing anything. I think we've come a long way

[00:10:36] but that also shows there within less than a year you know who would have thought that these researchers can develop you now

[00:10:44] working vaccinations in less than a year that's one thing that could only be achieved by this uncertainty we did not know

[00:10:54] whether it would be effective it does work now and it's the same with with most of mankind's achievements: going to the moon

[00:11:03] you know, Christopher Columbus sailing across the ocean discovering the new world. I mean he didn't know what he would face and now our future endeavours will be the same but do we know will find on Mars or whatever. So these kind of challenges and

[00:11:20] these true innovations

[00:11:23] Are always based on not knowing what there is. Wanting to explore, being curious, being open to learning, wanting to learn to move forward. Gudela also makes the point of opposing the talk

[00:11:38] about how the crisis due to the pandemic is a chance to improve life and work.

[00:11:43] Overall clearly I mean uncertainty is hard for people right now and it's

[00:11:49] Then also a question of what's the resources you have to deal with the uncertainty and I mean sitting here in Zurich

[00:11:56] with a job, a well paid job even, I mean with everything kind of working I mean that's a completely different situation where can I see say oh yeah sure,

[00:12:05] uncertainty I can try out new gadgets compared to somebody who doesn't have a job anymore and 3 kids at home

[00:12:13] just everything is kind of falling to pieces. I mean you don't talk about problems anymore you talk about challenges right and then try to give it this positive connotation and and

[00:12:23] in certain situations that might be good I mean to get people really to change their mindset a little bit and that might actually get them

[00:12:31] to do things they never thought they could do which is good but at the same time if you just kind of cover up

[00:12:39] Inequalities and obviously I mean large differences

[00:12:44] in resources that people have by just make it sound positive I think this is yes I'm quite opposed to that and this is just not taking people seriously.

[00:12:55] In a recent publication Gudela talks about one group which has been exposed to a lot of uncertainty.

[00:13:01] The title of the publication is "Uncertainty in aging and lifespan research covid-19 as catalyst for addressing the elephant in the room".

[00:13:12] Part of our research is also to look into

[00:13:16] older employees right, obviously they all, or many have a hard time right now because they are considered

[00:13:22] as leftovers and find it hard to find jobs again

[00:13:26] they might consider themselves leftovers. And when we ask people about their employability then it's always a strong correlation with age that the older you get you feel less employable,

[00:13:38] so we've looked into that and and certainly is this kind of yeah funny animal in a way because

[00:13:47] what do you find with older people and reduce kind of opportunities everything becomes more certain in that sense right but often more certain than in a negative way I know I won't have a job anymore

[00:13:59] find a job anymore I have no I'm going to die pretty soon anyway right and if you open up the future again then obviously you open up to uncertainty also.

[00:14:08] In a positive sense in a joint project with the employment service in Zurich

[00:14:15] Gudela is developing interventions for older people in order to think about their future differently and also to dare take uncertain steps.

[00:14:25] Assigned or much more in addition

[00:14:27] Gudela and a colleague organised a conference in Ascona in 2018, the title was "Creating uncertainty - benefits for individuals, teams and organisations".

[00:14:38] Is the research statement following the 2018 conference still valid or does she need to rephrase it in the light of the Corona pandemic?

[00:14:48] We would argue it's still valid because I would guess our main kind of pushing argument is really that

[00:14:57] you just simply start to explicitly look at uncertainty and often uncertainty is ubiquitous, right, it's everywhere but it's not necessarily always explicitly addressed so our first thing would be to explicitly address it.

[00:15:12] And then look at it: what does it do in certain situations, can it be an opportunity and sometimes it can. is it more a threat and rightfully so in a way and from that then develop different ways of acting.

[00:15:27] Based on the conference in Ascona Gudela continued researching how to unlock people's potential regarding work more complex work.

[00:15:36] And one

[00:15:37] characteristic of more complex jobs is actually more uncertainty, right, people will allow me to be freer in what I do when I

have to deal with uncertainties when they can't prescribe exactly what I need to do so

[00:15:51] that was kind of my starting point where you could even say can you even infuse uncertainty into jobs to kind of push for for better jobs,  
[00:16:01] I enjoy listening to Gudela Grote and her inclusive, empathetic approach to all aspects of uncertainty, and also talking to Nadine is enriching.

[00:16:11] Has the crisis of the last year changed her research? Did the term of uncertainty even shift?

[00:16:18] It did but in a way more methodologically because as I've chosen to investigate my research in ICU teams of course they are the most heavily hit and all the simulation training said we had scheduled for last year

[00:16:35] to tackle a research question had to be cancelled which of course was a huge pity but we will continue doing.

[00:16:43] That's almost ironic ICU teams intensive care units were crucial to handle the situation during the pandemic.

[00:16:51] Uncertainty is everywhere and all over, it's not easy to tackle and probably we grow uncertainties early on,

[00:16:58] That just brings another idea to mind which I think is important to stress that fear of speaking up is something we create in our children not least by the educational system.

[00:17:12] As soon as a child who is

[00:17:14] naturally inquisitive and curious and wants to ask questions and may also then bring in something that maybe doesn't make sense in a certain situation if that person is then laughed at or criticised or shut down

[00:17:28] then you know little by little they will learn

[00:17:31] to remain silent that's the kind of societal or cultural upbringing that we expose our children to. So I make sure that with my own children I kind of encourage them to really speak up

[00:17:43] and make it also clear at the same time that they can't expect to always be listened to or that they can't get their own way I think that's important and that is not so easy to achieve.

[00:17:55] Nadine Bienefeld and professor Gudela Grote from the Department of Management Technology and Economics at ETH Zurich

[00:18:02] were my guests in the fourth episode of our uncertainty series. In the next and last episode of the uncertainty series, we'll talk about the challenging uncertainties

[00:18:15] in the perspective of the career of researchers. This Wachter's Audio Storylab together with Luki Fretz, the sound designer,

[00:18:25] And I, Jennifer Khakshouri, put this episode together. thank you for joining us.