

Transkript der Audiodatei

"The rise of Artificial Intelligence: Challenges and opportunities for SMEs"

Moderatorin

Hello everyone. I'm Susanne Schleppest, researcher at Institut für Mittelstandsforschung in Bonn. Today, we talk about tapping the potential of artificial Intelligence. AI is in the center of media attention and shapes the political discourse these days. With the EU-AI Act introduced recently, policymakers are trying to build trust in the reliability and transparency of AI. On the business side, the crux for companies is to benefit from these new technologies while also tackling legal and other AI-specific challenges. For SMEs, these challenges are even more relevant given the more pressing resource scarcities as compared to larger companies. Today, we aim to discuss the challenges and opportunities for SMEs resulting from these new technological tools and the framework conditions needed to support SMEs use of AI. For this, we have invited international entrepreneurship researchers. I welcome Professor Friederike Welter, President of Institut für Mittelstandsforschung in Bonn, and Professor at the University of Siegen, Professor Jan-Philipp Ahrens from the University of Duisburg, Essen, Professor Heiko Bergmann from the University St. Gallen, Professor Robert Blackburn from the University Liverpool und Dr. Christian Dienes, also from Institut für Mittelstandsforschung Bonn. Professor Welter, in which way should we look at the challenges and opportunities associated with artificial Intelligence?

Professor Friederike Welter

I have three points. One point actually touches upon regulations. Yes, we all have learned about the European AI Act as an example of how we could regulate. I do think there are a few questions when it comes to SMEs and Mittelstand companies: How to ensure that we don't overregulate artificial Intelligence, but that we can actually foster ongoing innovation and the scope for new AI-driven business models. I think that's one of the open questions we don't have responses, yet.

I also would like to question whether we do need specific AI rules or specific AI support for small businesses. Another question is, who or what do we regulate when it comes to artificial Intelligence? The users, the companies, or the technology? I don't think that is a question we have solved yet. The second point is when most of the research on AI and SMEs touches upon at the moment and that is what is artificial Intelligence role for enhancing entrepreneurship and business performance? What's the status quo of AI-Adoption in SMEs both nationally both internationally? Which AI technologies could below hanging fruits for SMEs to implement very quickly? When we look at AI adoption, and we've just run a very small and quick survey in Germany, and what we see is that Mittelstand companies tend to make less use of artificial Intelligence, but if they use artificial Intelligence, they actually profit more.

55% of those who use artificial Intelligence mention AI und use labor productivity gains for example. My third point, I very quickly want to run through SME policies for artificial Intelligence. Which framework conditions do we need to foster AI applications in small businesses? The question I've raised upfront already, do we need special support for SMEs and their artificial Intelligence use? In which ways could SMEs be disadvantaged through AI, in which ways could they be advantage in comparison to larger businesses? Flipping the perspective, I also think it would be very interesting to talk about SME policies and the AI use for SME policies and support. Is AI or can AI be quicker in identifying support needs of small firms? Could it help those offering support to small businesses and actually crafting different programmes, different support measures? Could it play a role in delivering support? Yes, of course, we now automatically think of chat bots, but maybe there are different ways as well to screen, to pre-screen programs, participants or something like that. Ist that at all feasible? Is that at all possible? And what about the ethics of using artificial Intelligence in so many different ways?

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Let us first have a look at the use of artificial Intelligence in the business economy. How do start-ups adopt AI, Professor Bergmann?

Professor Heiko Bergmann

We identified actually two main mechanisms for where AI is mainly used: compression, time saving. So AI tools enable founders to do things faster and conservation. So AI enables founders to do tasks with less human resources. So tasks like research and data analysis can be used with fewer employees, maybe also only the founder doing it themselves rather than employing something.

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And what are the specific advantages of AI for start-ups?

Professor Heiko Bergmann

It is an efficiency tool. It's used to do things faster and also with less resources. And we thought, well, that should also be identifiable in quantitative data. And we tried to do that. We did this quantitative study to measure the impact of AI on start-up efficiency. And so the hypothesis was that after the introduction of ChatGPT3, start-ups should be able to achieve milestones faster and with fewer resources.

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What do you expect, Professor Bergmann? Will jobs or human beings be replaced by AI?

Professor Heiko Bergmann

In the past, technological progress has mostly affected the low-qualified job, but now with AI, it's really an example, or it will have the most, the greatest impact on highly qualified jobs.

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Mr. Dienes, you have asked companies about the AI adoption in Germany. What are the results?

Dr. Christian Dienes

When we distinguish Mittelstand companies with their counterparts, we see just little differences between those groups. But if you compare AI adoption across different size classes, you can see that the very large companies do not really distinguish them from the ones that employ 50 to 249 employees. So, when we speak about SMEs, we speak, at least according to this result, we speak of a more heterogeneous group with respect to AI adoption. What is also really familiar in this kind of service, we also ask about the benefits of AI utilisation. So of these companies that actually use AI. And we figured out that boost in labor productivity in every second company was the most prominent. So we have no further questions on labor productivity, but we could speculate that maybe ChatGPT-Use could contribute to this result, improving the labor productivity of the staff. At the same time, work safety improvements due to AI use was mentioned the least often.

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Which companies benefit from AI?

Dr. Christian Dienes

We can see that every third company profits from AI. So saying, okay, there was maybe there's a savings on costs, more turnover or whatsoever. And every third company states that. But you also have quite a lot of firms that have not yet profited from it. But there are also every third company says it remains to be seen, which indicates that AI implementation is in the first beginning. So time will tell. When we compare subgroups, what we figured out is that Mittelstand-Companies profit more often from their AI-Use as compared to the non-Mittelstand-companies. And maybe and as you know SMEs represent a major group in these Mittelstand-companies. So maybe this has eventually to do with SMEs think more thoughtful about whether to use AI technologies or not and whether they align with the existing businesses.

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Professor Blackburn, can potential opportunities materialise and turn into real impacts in the foreseeable future?

Professor Robert Blackburn

Certainly, I could see AI is opening up opportunities for new Mittelstand und small enterprises. Inevitable, that will happen, because we know, one of the few things we know about small businesses in the Mittelstand is, they thrive upon market disturbances, where the big conglomerates eventually catch up and standardise processes and products and so on. So I could imagine that there are new opportunities, substantial opportunities for

new entrance to the marketplace, building upon the capabilities and the opportunities that AI presents. On the other hand, and again, you could say this is quite an existential problem, on the other hand, to what extent will AI lead to standardisation and lead to products and services and so on? Because if that is really the net outcome of AI, then it really means it's going to be a challenge for SMEs because they can't compete on price. They compete on quality and niche market approaches. So, again, we have to think broadly about the net effect of AI. Maybe both things are happening. Maybe it's providing opportunities for niche products and services and new products and services. At the same time, there may be some standardisation of processes and activities.

One of the results that seems to come out of the survey, of course, is an increase in productivity. Does that have ramifications for standardisation. The big point here is that SMEs, really, when markets become standardised, particularly the technology-style markets, then SMEs struggle to maintain in their marketplaces. So really, it's about trying to understand these longer-term impacts. I had another thought, and that is that AI is going to creep under the doors and into the windows and into the computers of all SMEs. They're already engaged with AI through their suppliers, through their customers, through the regulatory regimes. AI is being driven at the moment by large organizations, governments and so on. It's something that SMEs probably are already engaged with it in some way. It might be a trivial, maybe a trivial way, maybe a chatbot, or it may be something at that level. But inevitably, it's a bit like any regulation or any new piece of technology. SMEs cannot ignore this. So in a way, they either have to be proactive or they put their head in the sand and hope it will go away, and we know it won't go away.

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Professor Ahrens, you have actually used AI in order to analyse the sustainability of family and non-family firms. What is your experience using the AI as research instrument?

Professor Jan-Philipp Ahrens

At least in science, we have a common ground that we need to go sustainable. While we don't have the data, how on companies that makes us understand better how we can go sustainable. So to overcome this, we actually used artificial Intelligence to get sustainability data on organisations at scale.

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Can you give us an example how AI assists you in your research?

Professor Jan-Philipp Ahrens

Our research question was how do family firms and organisational age, so these two that are often used together, old firms und Family firms, they are often thought together, but they are in fact different concepts. How do they relate to organisational sustainability? So, that was the key questions but we also have a lot of other variables in the control vector that are really informative on this topic of sustainability adoption. So as there was no theory on this topic, we derived a new theory to talk about family firms and organisational age from within one theoretical frame. And if you would like to follow this and just take a

step back and think about how you navigate as a person in reality. And basically what we humans do is we use our senses and we use our heuristics of programming, of learning from our experience to navigate in reality. And that is run basically by the interactions of the cells in the human brain. So, if you think about the artificial Intelligence it's pretty much the same concept. This is basically run on interactions of processes in an artificial neural net.

By the AI, of course, it has interfaces to reality and it, of course, also has a memory. So it's pretty much the same components that we are using. We now use this concept and say, okay, it must not necessarily be a human tissue nor must it be a silicon but it can also be run on the interactions of agents in an organisation, so humans and AI. So what's basically employees and the management that talks and interacts together, and thereby at the macro level also forms a neural net, which then if you look at organisations at scale, if you combine that, it provides an intelligent response. So, you basically have the same at the organisation level. It's just that we call it a collective intelligence.

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Thank you all for your interesting contributions. We look forward to hearing more about your research findings on SMEs and entrepreneurship in future podcast of IfM Bonn. If you are interested in further research of Institute für Mittelstandsforschung Bonn, please visit our website: www.lfm-bonn.org.