Episode 6:

Mobility as a Service

Kevin Chambers 0:00

I'm Kevin chambers technologist within NCMM, the National Center for Mobility Management, and this is conversations with leaders a podcast funded by NCMM. Check out our resources aimed at mobility managers at NC4MM.org. Today we have three segments where I interview Jana Sochor about a discussion paper for the international transport forum entitled, Piecing Together the Puzzle Mobility as a Service from the user and service design perspectives. Jana is a senior researcher in Sweden at KTH Royal Institute of Technology in Stockholm, Chalmers University of Technology in Gothenburg. And at the time of writing of the discussion paper was a senior researcher at Rice Research Institutes of Sweden. In this part one of the series, we talked about the history of mobility as a service and the many ways the term has been used since it was first coined. Welcome Jana, , you want to talk a little bit about your background and your work with MaaS.

Jana Sochor 1:07

Thanks so much for inviting me for this interview. And my personal backgrounds is that I'm working here in Sweden, but I'm actually from the US originally, although I've lived in Sweden for a long time. Now, I came over here to keep studying basically, after my Bachelor's, and so I did my masters here and actually in mathematics, kind of with a focus on optimization. And then I did a PhD at KTH Royal Institute of Technology in Stockholm. And there I entered the world of transportation, My topic was related to personal integrity or privacy, safety and security aspects around different ICs systems and services. That was the big thing at the time ITS, Intelligent Transport Systems, Stockholm was about to post IHS World Congress and part of the initiative national initiative around that was to start a so called virtual research school related to IHS and they I chose Sweden and various universities in Sweden and other collaborators, such as Stockholm city, in my case, got together and created initially six PhD positions in different topics. And it is, and I happened to get one of them. So I had earlier focus more on mathematics and history, actually. But I've always had very broad interests, trying to understand reflectively, I think it was a lot about trying to understand the world and people from different angles from different topics. So this was interesting for me. But of course, as anyone coming into transportation, it's one

of those, you know, societal resilient systems. Transportation is one of those very important systems for society where you realize just how complex it is only once you get into the area.

Kevin Chambers 3:03

Yeah, and I can imagine, it wasn't hard to find where math and history fit in to transportation.

Jana Sochor 3:12

No, I mean, as, as I think we all know, transportation is one of those areas that needs all these kinds of expertise that exist, to be applied in different ways. So in that sense, I also found it very interesting, because I was interacting with people with so many different backgrounds, which was also exciting, because you learned so much from these different perspectives is different expertise. So in my PhD, I mainly focused on the user perspective, looking at different cases of different user groups using different types of so called ICS systems and services. And, for example, personal navigation for visually impaired people. I did a case study having to do with certain services in heavy goods, vehicles, and other case studies as well. But looking how these systems were impacting people's senses of safety and security and privacy issues. And then kind of contrasting that with in the case of the truck drivers, for example, their viewpoints, contrast that with their employers viewpoints, and one definitely saw a gap there in perceived benefits. So after my PhD, I wanted to do a postdoc, and I found an opportunity at Chalmers University of Technology in Gothenburg, Sweden. And so I started there, and the main focus of that postdoc was to do the evaluation of the Yubico pilots in 2013, 2014. And at the time, the term MaaS wasn't really floating around yet that came in more in 2014. So we were calling it a travel broker, I think is what we were calling it at the time. So I wasn't involved in the development of that project, but from what I've understood from the people that were involved. The idea was really something that came up a few years earlier in personal conversations, etc. This idea of well, what if you don't have to own your vehicle? What if you can subscribe to various transport services instead? Is there any kind of business in this idea? So there was the pre study that was done. And then the bigger was called B project got funded, where there was actually going to be a pilot. And so that's when I popped into the picture. And little did I know, little did we know that this was going to turn into a thing, right? Yeah, so we had this evaluation plans. Within this project, mainly, the task was made to evaluate mainly from the user perspective, which we did, although we quickly integrated other perspectives as well, even though it wasn't technically part of our task. As we saw, there were these different stakeholder perspectives that didn't always align. And we saw that both generally and also internally in project meetings, you get these big multi stakeholder projects, which I personally find very interesting, partly because of this challenge of aligning stakeholder perspectives, you know, different, you know, the public agencies, the private companies, the academics, etc, etc. You know, they all have, even when you have a common vision, you still

have different, you know, internal goals, interests, even a way of talking about things, and a focus, right, I find it quite fascinating to watch this, this interplay between the different stakeholders.

Kevin Chambers 6:37

Yeah. And that really shows in your paper that you look at mobility as a service from a lot of different angles. And that's what I think was really interesting about your paper. And also, you really kind of cut through the quick in the sense of, you kind of make pretty clear that this may not be as great as it's being marketed as, you know, you take a real researchers look at it, like is this really achieving the outcomes that it's that are being desired. But before we get to that, let me walk through a little bit some of the things that you say in your research about MaaS, and thanks for that background, because I really heard that you have had the chance to look at MaaS even before it was called that. And you've gotten the chance to see these attempts to build ecosystems of mobility options, really, from very early on, because it helped me with pronunciation if I get it wrong, but the UB go project was really among the first ever certainly in Europe and maybe anywhere.

Jana Sochor 7:33

Yeah, it was the first trial of a commercial concepts. So some people have critiqued the evaluation. And because it was didn't have a controller, for example, but we tried to remind them that it wasn't an academic driven projects, it wasn't innovation driven projects, a business driven project, the whole purpose of the project was to see if there's a viable business case. So they were they were deliberately trying to, you know, target people who could be potential customers, right. And that kind of business focus was central to it. And despite having been in, you know, a multitude of other projects, since then even trying to help other, you know, a couple other pilots get going etcetera. I think this is really kind of driven our approach here in Gothenburg, specifically with the people I've been working with this very kind of pragmatic approach, how do you actually get functioning sustainable in all perspectives? You know, economic, ecological, social? How do you get a viable service actually running that can last and can make money? And we've taken an academic approach to doing that. But I really think these experiences have been so valuable in creating this kind of, I don't know, if you want to call it more realistic or more pragmatic approach to the whole field. Yeah. Well, let's, let's start off a little bit with some definitions. Because I think there's a lot about MaaS that is a product, more people's understanding of MaaS is a product of the marketing that is surrounded it over the really the entire life of the term. And, you know, for people here in the US who are, you know, most likely audience for this interview, MaaS has been kind of put out there as mostly from the writer perspective that you know, MaaS is about apps. It's about apps where you get to choose your options and go really, that that's what MaaS is, once you have an app, then you're very close to having MaaS. And you write you write to be cautionary about that. And it'd be cautionary about having an eager but naive, technology driven approach.

And you advocate a more systematic approach where it really takes into account the user and a societal context. And I'm wanting to just take a moment to talk about what you think mosque is, and where technology fits and doesn't fit in the picture. sure that you have. Oh, well,

I could probably talk the whole hour about that. Yes. Well, I don't think there is one answer, which is why we've taken the approach we have back in, you know, when this when this kind of like went into the hype cycle, and everybody started talking about Mohsen, for example, the ICS World Congress in Bordeaux in 2015, when they launched muscle ions, and, and all of these kinds of initiatives, you know, that was really this attitude like, by next year, we're going to see these services everywhere. And clearly, that didn't happen. Don't get me wrong. I'm all for evolutions and innovations in transport. But as this has not happened, and as many innovations throughout history, innovations within transport have not necessarily happened as one has imagined. And even good ideas have disappeared for various reasons, like electric cars existed a long time ago, and then just didn't become popular for various reason. Yeah,

Kevin Chambers 10:57

That's a good example.

Jana Sochor 10:59

The approach I take in this paper is just to try to lay it out like, well, it is complex. And we need to recognize these complexities and approach them in a more systematic way. So we know where the enablers and barriers lie. But back to what MOS is, you know, we kept being asked, well, what is it? What is it everybody was trying to come up with a definition. And so we decided to try to tackle this issue, and ran a workshop, etc, with various stakeholders. And in the end, we just decided, well, we don't think there is a definition, because it's an evolving concept. And because there's so many different examples of services that at least people claim our loss. And we found in their analysis that they kind of fall along what can be perceived as a continuum, or some kind of topology or taxonomy. Or so we decided to take this approach, and developed what we call them last topology, where we have five levels from zero to four, where level zero is basically single, separate services as they've traditionally existed in their silos. And then in level one, we talked about integration of information, which has existed for years, such as the aforementioned advanced traveler information systems, like real time, information, Journey planning, and this kind of thing. Level two entails more integration of booking and payments, we're able to do this more easily be an app, for example. But level three is kind of when you're getting into having an integrated service offer with for example, subscriptions and bundling. And where the MaaS operator is actually taking on customer responsibility and guaranteeing service and these kinds of things to the extent they can. And then level four, we call the integration of societal goals. And

really, this can occur on any of the levels, but we put it at level four to push that this doesn't exist in that this is this is the vision to eventually achieve this, where the companies and the authorities are really working more closely together in terms of the governance of the transport systems and services where you have cooperation between them the data exchange, you know, we're, even in real time, this could theoretically be working together to, for example, offer dynamic pricing. So there's all kinds of things that can happen if you get to this level in terms of really trying to integrate what's being offered in the services to ensure that they are better achieving overall societal goals. So this typology, we recognize that not all services aren't, quote unquote, equal or necessarily should be equal, because they're targeting different customer needs. So for example, a level a level one service with integrated information like travel planners, et cetera. These have existed for years. And as I said, they haven't proven to offset private car ownership and use as one had imagined previously. But realistically, there's little reason to expect them to be able to do this. Because these types of services are really just offering support for finding the best trip on a trip by trip basis. They're not really targeting the entire household transport needs on a year round basis. They may be perfectly adequate for say, for example, people in urban settings who mainly walk or bike and just need to use public transit once in a while. So they find the bus trip that they need can be perfectly adequate for them. But that's not going to be adequate for say, homeowners in the suburbs that own cars that have small children, you know, they're running around taking them to school and football practice. And where public transit maybe doesn't have a good level of service, you know, this probably isn't going to be good enough to ask has been demonstrated, push them into using public transit. So there are advantages and disadvantages, clearly with these different types of services along this topology or in this topology, but you need to recognize, like I said, they targeted different types of needs, they also entail different types of technical integrations, different types of business and pricing models, different types of contracts, sharing of risk as different types of operators, etc. So there's a very broad spectrum of services that are somehow supposed to that, you know, under this MaaS umbrella, that can't fall under one definition, in my opinion, apps have a role to play there. But again, people aren't just wanting to use an app, they're using the app to achieve something else. And humans have a tendency to not necessarily learn from history. And it's not like I've been in the transportation business as long as many have. But I mean, even I have been in it long enough to remember probably the end of the maybe the ICS hype, or the, you know, ACS, ACS hype, advanced travel information systems, like, you know, where there was this really this idea, like, oh, we just get real time information into public transit, and then everybody's gonna become a public transit user. And clearly, that didn't happen. It made public transit more convenience, sure, for those who are already using it. But it wasn't this, this new technology, this information wasn't enough of a poll to get people to stop using, you know, sell their private cars and become public transit users exclusively, for example, right. So I really think that's a very clear example of a similar situation where we bring in a new technology, we think it's going to change everything, it's going to be the band aid to fix a broken leg. Sustainable transport, and it's just not enough because it's not taking the larger context and consideration.

Kevin Chambers 16:57

It sounds like, as you talk about it, that a lot of time when I hear people talking about mass, they're really talking about the full meal, the every aspiration for Moscow, that is has the capability to allow people to not own a car, or to maybe only have one, whereas before that maybe a large family might have to, for example, and the framework with the different levels that you create also seems like it mirrors a little bit, the five point scale for automated vehicles that SAE put out some years back that with each incremental level, you get more towards the dream as it were, you get more towards the aspiration of the case of self driving cars, full autonomy, where you don't even need a steering wheel. And in the case of MaaS, the full Dream, which is that the services are all out there, they sort of exist as a cloud that you can tap into from your phone and the services and the framework understands you well enough that it's there for you as good as an ideally better and cheaper and more sustainably on a environmental front, then only a car would be. Yeah, seemed like a fair analog got me to compare the two.

Jana Sochor 18:14

Yeah, I think it's fair. And there have been some other similar attempts along those lines, although the other attempts have slightly different focus. And they tend to not have this end goal of integrating societal goals either. I think they've kind of forgot about that along, though, along the way, because they have a slightly different focus. But yes, definitely. And I think, at least I perceive a kind of a shift right now where there's, there's still a strong drive towards trying to achieve, quote, unquote, loss in some form. But there's, I think there's also you're starting to see bigger frustration creep in, that it's not happening as fast as one heads hoped and that we're seeing these, unfortunately, not unique challenges arise over and over. But you know, whatever you want to call it, I still think it's useful. If you want to call it MaaS, you want to call it something else, I still think these general approaches are useful and necessary to move towards more sustainable transport in terms of the integration having this bigger picture, the more systems approach, remember, it is a transport system, right? We tend to think about the system a lot of the time, in terms of stakeholder collaboration, finding the common vision and working towards it. I mean, this is not just a challenge in personal transport. This is a challenge in its transport as well. It's a challenge in other societal systems, trying to work more towards a global optimum, instead of a state stakeholder working towards their own local optimum.

Kevin Chambers 19:49

Yeah, that seems like is it in a nutshell, right? I mean, this is where this is an attempt to lift all boats together. If I'm using a metaphor right? Come up with solution that raises all boats, rather than sort of a more of a crabs in a bucket approach towards approaching how mobility happens, especially in denser spaces in cities. That concludes part one of this three part series with Genesis or in part

two, we'll talk with Jana about frameworks to design and evaluate the limitations of mobility as a service.

Conversation with leaders is funded by the National Center for Mobility Management. Check out all our resources aimed at mobility managers at NC4mm.org. A link to this podcast can also be found at NC4mm.org/blog.