



Transcript of Podcast from Industry Day, Service Week 2016

Growing Your Service Business in an Age of Digital Disruption – Full Podcast with all Speakers

Full Podcast recording available at:

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Andy Neely, Director, Cambridge Service Alliance:

We chose digital disruption as a main theme for this conference, linked to growing services, just because of what's going on in the world. If you think about in the business to consumer world the role that digital technologies are playing in changing or shaping new business models. So think of AirBnB, think of Uber, think of what Facebook is doing, they are all digital platforms that change the way individuals interact. You can then add to that the business to business world – so the Internet of Things, more and more connected devices, data coming off cars to tell you where they are, GPS tracking – it's just a world that digital technology is becoming so much more important and shaping the way organisations operate.

Industries have changed dramatically. If you think about the first factory I went round was a production line for cars 35 years ago, and it was then people with spanners, putting wheels on cars. They worked along automated assembly lines and so on, but it was a very different world. Clearly, when we are making cars we will still have assembly lines, we will still have robots attaching many of those devices, but what has changed fundamentally about manufacturing, is the way in which data and digital technologies are shaping products. One thing we have been talking about at the conference is the notion of a digital twin. You can imagine every product in the world with effectively a digital replica of that product. The digital twin would contain the original design information, and any modifications you've made to it would be updated in the digital twin. The digital twin might have data on – let's say it's a car – on how many miles it has driven, how many hours its driven, how many times it's been started, what the exhaust fumes are from the car and so on. You could start to build this digital replica of your physical product and if you had that digital twin, then you could say that now we need to upgrade the tyres or change the gaskets or improve the engine in some way. If you could work out how to do that using the design of the twin, then you can work out how to implement it in the actual car. This whole digitalisation of products and the technologies that make them, really change the game of manufacturing.

Siemens - The thing that you see, increasingly, is people trying to connect up across systems. So, rather than Siemens providing little bits of kit – they still provide the kit – they are also thinking about how do those bits of kit interact with machines that other people provide, how do you optimise the system, how do you look for energy savings, how do you run the system more effectively. Clearly if you can save energy, then energy is a significant input cost to that industry, its valuable for the customer. There is a revenue share model where Siemens and the customer share some of the savings that accrue. Actually, the



savings were enabled by installing some of the Siemens sensors and technology, so Siemens secure new sales of their products. It's a win-win situation for both the provider and the customer – and that's what people are really looking for in the service business models.

You could argue that many products for years have needed a service offering. Anything that continues to operate and wears out over time, needs some element of service. You've always needed services with your car, you've always needed someone to replace the lightbulbs, or you replaced them when they wear out in your house. So, there's always been a service element to products. I think that what's changing is that increasingly we are then tailoring the service to what's really needed by the customer. So the wind turbine is a great example; like wind turbines in the middle of the ocean. If they are just standing there, operating, I need to send somebody out there to inspect them to check they are okay. If I've got a load of sensors on the turbine and that is feeding back data to me in real time, I know I can predict when one is about to break down and I can send out a technician to repair it before it breaks down. But I don't need to send out a technician just because it has been operating for 1,000 hours and the manual says you should now go out after 1,000 hours. You can be much more tailored with how you use your limited resource to make sure things are serviced, maintained and looked after well.

Increasing safety, improving efficiency, delivering better outcomes, making the system more reliable – there all sorts of benefits that come from services beyond just a cost saving model.

Brian Holliday, Managing Director for Siemens Digital Factory, Siemens plc:

I used a number of examples at the conference here today to highlight for Siemens, a company that might be well known for its products – its trains, or traffic lights or gas turbines – how actually we've got to engage with our customers and serve them in the use of those technologies. I went on to talk about my business, in industrial control systems. But, as an example, I've highlighted how in supplying trains to UK operators of course we have contracts that share the risk associated with their availability, and there is a high expectation that we make our trains available. I've highlighted here how we used technology to ensure that we can keep them well serviced and understand what's happening to them, like using laser technology to see the state of the break discs whilst it's in use, or sonar technology to look at the sound patterns to understand whether or not there are wheel bearing problems. What you can do then is predict when you might need to bring a train in to service it. It means you can stretch the use times between major service interventions.

I think there's a big push towards digitising transportation and, in particular, looking at, for example, what you could do with a digital railway. Whilst I didn't cover it today, Siemens are looking at how you improve the passenger experience using technology. How you digitise not only the production of the train, but how you digitise the operation of the train in every respect.

I've used my talk to highlight that digital, or building a digital asset base, building information about your product, from when you design it to when you make it, is going to



increasingly benefit those that then have a service relationship with their customer. It may be that for some parts of our portfolio we build a product, we ship it and that's the end of our relationship with it, or that customer. Of course, for many customers, they want to engage with us afterwards. So, if we've been able to build a rich knowledge base about our product, how we've built it, what's happened to it since, or indeed our customers are able to use our technology to do that for their cars or planes or electronic devices, that data can be further exploited in service operations.

Digitalisation helps us to better understand our products, how we built them, how we interact with them, how they are used. When used for feedback, feedback from the field, or feedback into design, hopefully we repeatedly build better products. It's not that we weren't able to do that before, but if you imagine the shift, from paper-based methods when we used drawing boards to design products in the past, or increasingly sophisticated models to build electronics and so on. Today, of course, we are talking about high definition three dimensional models and we are using people – virtual people – to interact with the product and work out what's possible. Can they commit to a service operation, can they do that without harming themselves – for example, reaching into an engine bay of a car or into an aircraft, and commit a service operation. Digitising not just the product, but the operation of interacting with it means that we are sharing knowledge much more than we were before. We are able to build on knowledge and we are able to repeatedly do things better if we are to continue to collect data and use it in that way.

When you look at the digital enterprise, and I guess this is the value chain that I centred in on for our organisation, thinking about how you make things in particular – or design and make, rather than thinking about the supply chain. It strikes me that there are four pillars, that will help set an organisation up to become a digital enterprise. The first of which is creating a data backbone, creating a single version of the truth for data related to the design of the product and design of the plant, and when kept up to date that means you can go back to it quickly when you need to commit to changes or update what you are doing. The second pillar is having a communications network that enables you to ensure that you are collecting all of the data. In an industrial environment it may well be not just measured values but also parameters like the number of strokes on a valve, that might be an indicator to a likely failure at some point in the future. Being connected is key, so a data back-bone and a communications system are one and two. Thirdly, we are interested in data security – keeping data safe – whether it is the IP related to the product or the process or indeed trying to ensure that we are not building systems that could be exploited by others for commercial or other reasons. That's key when we are talking about IP connections. And finally, data analytics. The first three enable us to extract data safely from the design and production environment. The fourth, the analytics, is about exploiting that data and creating value from it. Looking at outlying trends in manufacturing batches, for example, or looking at customer feedback alongside product feedback that might have come back from technology in the field. Even just looking at energy analytics or condition monitoring, better exploiting the data, now that we are able to use it in a cloud environment, making it even more accessible and using platforms like 'mindsphere' to help extract value from that, in a new way of doing things in the digital world.



From an engineering perspective, if you think back to picture a drawing office, in which of course you've got serial processes which were linear, but now, with the digital twin, you are building a complex model collaboratively. You have got people working at the same time on the same data in a collaborative product management sense, but by painting a rich and complex picture of the device you are able to view it and bring it to life. You can isolate its characteristics and think about the materials or the suppliers, or you might test it in ways virtually that simply wouldn't have been possible with earlier methods. What it means in particular is that for the product you can virtually prototype, so you can get much closer to having a near to market product designed and built from those virtual models. From what I have covered today, the digital twin concept is just as valid when you take it into the plant. If you are thinking then about the production environment itself, as manufacturers, we have to think about the best way to lay out the factory. As we bring in new product lines or we start to think about ways of making ourselves more productive and reducing waste, that might mean making a number of scenarios. Rather than picking physical machines up and moving them around and having down time, being able to digitise those by scanning the factory, or putting the data that we've got associated with them into the computer model we can then run those scenarios in the computer before deciding how to commit to changes in the real world. The digital twin concept is genuinely exciting, not just from design but to make and, I think increasingly, in service. What happens if you take the information you understand about your product and you give it to your service technicians. You give it people who are then able to guide people remotely, because they've understood the work instructions in a meaningful way. They can see a 3-D model; they can see how to disassemble a device in the field. A digital twin that's an up to date real-time version of the real world could mean having multiple versions of a product that is in the field and being able to pull out of the computer hard drive the particular version that your engineer or your technician or customer is looking at remotely, and being able to see in a much more tangible way what it is they are going to have to do to interact with it in service use as well. For design, make and service the digital twin is genuinely exciting.

Industry 4.0 is quite a useful title to allude to a 4th industrial revolution. The 4.0 sounds like a version of software, but it does allude to a productivity shift – a significant shift. The first industrial revolution, which was really brought about by mechanization of machines being used for the first time, largely driven by water, was a big shift from the cottage industries that existed before the 1780's. Electrification and the introduction of machines, along with division of labour, was another significant step forward in manufacturing. You can picture the Model T Ford – it was mass production that came to the fore. In the 1960's automation – robots being used in the car plants for the first time – we have this sense of robots being able to undertake activities that people couldn't. Factories came more productive and were able to produce higher quality, higher consistency products than handmade approaches. Industry 4.0 is really just picking up on a convergence of a number of topics; the internet of things, the power of micro-processors, communications and computing capability, along with some of those concepts we've talked about here today – like digital twin – and imagining a future even greater productivity can be derived from our exploitation of data, of software. We can see that a number of technologies today would enable that. But for factories to be fully autonomous we've got some way to go.



I tried to pick a number of examples that highlight the servitization of our business. We're an industrial products company, but trying to find ways to engage with our customers and highlight the benefits of, for example, energy savings through our variable speed drives, often it's not enough just to highlight its specification and what it's capable of doing. For example, it may reduce the energy consumed through electric motor by up to 60 percent, and when – as is the case in the glass sector – that's 25 percent of the cost of manufacturing, that adds up to a significant sum for a company like Pilkington. I showed the case study that is [available online](#). What we were able to do was to finance an investment for them, such that they didn't have to find cash and they didn't have to make a capital outlay to buy the technology that were then going to save them money. We then got paid by the savings made in their reduced energy bill, and after three years they get to keep the asset, have a lower energy bill and we've been paid for our technology. There are a number of models which mean that we can take technology, and an understanding of what the customer is doing, and wrapping that up as a service that means that we can make progress. It is because we have got a reasonable understanding of what the technology can do in an industrial application like that.

The CSA Seven Critical Success Factors (CSFs), have been helpful to us because they have been derived from industrial experience and I can see that they are up to date in their thinking. They have considered a number of the practical challenges that you would have encountered in servitising your business, and for companies like ours, which largely have a product they wish to sell, but increasingly needing to differentiate themselves through service, what the CSFs highlight is that you have to think about assessing your market and your internal readiness. That's not a bad start point but applying that to putting in place the right culture and getting the structures, and having the resources – so that you are not just thinking about offering services, but you are giving people the remit to go and do it. These are all key if you want to avoid the bumps in the road that perhaps some of the contributors to the report found.

The progress made with digitalisation and technology today has been a dramatic change, and it makes me smile to think about the progress made. I started my presentation today showing an old pc with a 5 ¼ inch floppy drive, and you've only got to look at the most basic of smart devices now to see the progress made, from a time when you couldn't imagine having the information at your fingertips that we have now. I can just see that accelerating even more. I guess in my career as an engineer I've thoroughly enjoyed seeing progress, I've loved being part of that. I love my role now, where I get to try and translate meaningfully what it is that technology does to others, as I've seen that progress in the course of my career.

I painted a different sectoral picture in which I can see different appetites to invest in new equipment. But I think it's really important, particularly at the moment as we talk often about a shortage of entry level talent coming into the profession, that we find better ways to describe what engineering is, or indeed manufacturing. There's a danger that, in media, or often inadvertently, we show engineering as being lathes and milling machines or smoke stacks from a bygone era, and it's not about that today. Factories are clean environments, which challenging work and increasingly they are digital. I think we have to do a better job



of pointing out that there are intellectually challenging opportunities for young people to consider a career in engineering today. I feel a sense of responsibility to try and help shift that impression that's negatively built up around engineering.

Andy Neely, Director, Cambridge Service Alliance:

Trackunit - I think the thing that is fascinating about Trackunit is effectively they are developing technologies that you can retro-fit to vehicles in the construction industry to monitor the load on those vehicles, and if you know the load that is put on the vehicle, then it has got implications for the residual value of the vehicle. Let's say I've got a truck that has been in operation for 3 years, but actually the data tells me that it has only been driven for 1,000 hours in those three years. That's really valuable information, because if you assume that in three years it has been driven for 3,000 hours, but it has only been driven for 1,000 hours it is worth a lot more in residual value. So Trackunit is developing technology to track those things. It is then using that technology to build a better connection between the driver, or the operator of the equipment, and the equipment itself. They are exploring with some really interesting models to say how do we get operators to take more pride in looking after the equipment, operating it safely, and so on. If you manage to do that, and you make the operators change their behaviour, you extend the life of the product or the technology, you can reduce the insurance costs associated with it and you can increase the residual value. It is a really interesting technology to try and make, effectively, a perpetual product extending the life of the original product.

Per Sternqvist, VP Servitization and Solutions, Trackunit A/S:

First of all it's a telematics solution, that's our old business model and we are still using that business model, but we are moving into how can we utilise the data that we collect from that telematics solution. So, we have a platform, where we can analyse the data. My job is to build value propositions for OEM's, dealers, contractors, rental companies, operators, who sell, operate, or own equipment. Depending on which segment – if it is a rental company, they have one demand, or pain or gain, and want to look at the specific data that we can collect in one perspective. Then you have operators who would be interested in the data in another perspective. There are so many ways of utilising the same data in different contexts.

As a supplier of an operational lease you sit with the risk on repairs and residual value. That means that you are very much reliant on how the machine is being operated. If the operator overloads, or abuses, the machine it will have a direct effect on the residual value. It will also have a direct effect on the repair cost. You've got the same amount of money coming in every month on the operational lease contract. So that means that you have to focus on reducing your costs. One of the things that can drive up cost is overload and abuse. That is why we try to attack that. Operational lease that suppliers sit with the risk in many cases – but it is exactly the same risk that the rental company sits with because they rent out the machine. They have the same issue with the residual value and the repair cost.

In order for both partners to go forward together we use the workshop method, where we define the value proposition, and start developing the business model. When we define the value proposition, we actually define several value propositions – one for the contractor,



one for the rental company, one for the dealer, so we have different perspectives. In many cases we cannot get these if everybody in the value chain can see some kind of benefit. For instance, the contractor- if he overloads the machine, and the rental company says to him, you need to reduce overload, that should be a value proposition for the contractor because the rental company should at the same time offer him a lower price if he avoids overload. When he avoids overload the fuel consumption will go down, and the contractor is paying for the fuel consumption, so we are looking for a value proposition that fits for both contractor, rental company, OEMs and dealers. That's really a challenge.

Connect man with machines – the more we dive into it the more important we see it, because when you connect man with machine, you are able to use the data in a completely different way. We all agree that it is the operator that makes the difference. But nobody is really helping the operator to improve – that's how we use data. We simply use the data to change his behaviour through an application that he's got on his smart phone.

We are moving into unknown territory with some of the ideas we are working on. Sometimes it's very difficult to explain things that have never been done before. We have used videos, as powerful tools, and it is extremely cheap to do – and then we can test our ideas and get immediate reactions. Sometimes they say 'you are spot on', sometimes they say 'that idea is good, and if you twist it a little bit it will be even better'. Or that we have to learn from them and change a little bit on the concept. It is a method of developing at fast past without exposing yourself to high costs.

When we do this research and develop new value propositions it is very difficult to determine the revenue stream from the beginning. But, if we can address a very serious pain – it could be increasing repair costs or a lower price on the machine when you sell it – if we can address that in a powerful way, then we can start quantifying what is actually the gain they have got when they reduce repair costs. One of my hypotheses is that in some cases we can reduce repair costs by 20 percent by avoiding overload. When you can quantify that, it is much easier to put a price tag on your service.

Upside down creation – finding where the decision makers are and where they get their ideas from. Facebook is an enabler to share badges and trophies for the operators. We are tapping into the behaviour of the operator and their mind-set. They are really interested in showing that they are good operator. A way to show that they are good operators is to share the badges and trophies that they have collected because they are good operators. A very obvious place to share that is on Facebook and social media in general.

Is technology moving too quickly for the customer? Do they need advice on servitization and solutions to know how to employ the technology? - We see a big difference between rental companies, OEMs and dealers. We see rental companies being much more innovative – maybe because they started very early with getting their equipment connected to the internet. They are actually way ahead of OEMs and dealers in some cases. In other cases the OEMs are ahead, but we see that the rental companies are pretty advanced, and they are pushing us to develop new services. We cannot just provide one feature and expect that



next year that will also be valid. We have to develop constantly in order to satisfy the rental companies. They are really pushing us – but that’s nice.

When you enter a new area where nobody has been before, you cannot up front come up with a perfect solution, you need to test, test, test, and fail during that process. Software development and services, you need to develop at a different pace and allow yourself to fail, which is not always the case with a prototype of a hard product or machine. It is much cheaper to fail with software, and you can fail many times because the costs will be low.

The pace of change we see is exploding. We are seeing so many retrofit solutions, where machines are being delivered by the OEM and then fit telematics solutions. But in the future, it will fitted from the factory. The cost will go down, so I will expect that in a few years, or maybe months, it will be a standard option that every machine that leaves the factory will be fitted with Telematics – just like navigation on cars. You almost can’t get a car without navigation today. If you factory-fit on all machines then the market will explode.

Andy Neely, Director, Cambridge Service Alliance:

Uber - Uber was really interesting for a number of reasons. First of all, they were very clear about describing themselves as a technology business, first and foremost. They were worrying about how they develop technology to build a platform that enables a market to operate. Then in that market, they were worrying about how you make it efficient. So they talked very clearly about the drivers as well as the riders effectively being customers of the platform. So Uber puts a lot of thought into how to create a platform that allows drivers the flexibility they want, allows them to achieve a decent income, and that allows them to avoid ever driving around with an empty car – you want high utilisation if you are a driver. They seem to spend as much time thinking about that side of the model as they do thinking about how they create the seamless customer experience for the rider who is going from A to B. I thought it was a really good illustration of how digital businesses think differently about the way the world works and what their role is in the ecosystem. That’s what takes you into platforms and what people talk about as multi-sided markets – Uber can make money from both the rider and the driver by charging a percentage from each of them for connecting them in this seamless market.

There was some really interesting data about the number of rides that started within 200 metres of tube stations or bus stations, particularly in outer zones in cities. Take London – once people come off the tube they take the Uber car the last little bit home. They talked about ‘last mile logistics’. They’ll do the transport for the last little bit of the journey. When Uber is planning to scale up its business and move into new cities, one of the things it is doing is it is tracking the number of eye-balls in the new city. I have the Uber app on my phone, I live in Cambridge, every so often I will open the Uber app to see if Uber has come to Cambridge yet. Uber knows when I have opened the Uber app, and knows I am in Cambridge, and if lots of people are doing that in Cambridge, it knows there is a pent-up demand for Uber, and that is partly what drives its decision about where it goes to locate or open up next. So the data is not just useful in terms of the existing operation, but also about thinking and planning about how you might scale-up the operation. Then of course the data is incredibly valuable to other people, who have to worry about urban infrastructure. If Uber



generally does rides from bus stations over to people's homes and so on, then you could start to think about where we put park and ride locations and how do we make space for Uber cars to actually get people from the park and ride location back to their home.

Fred Jones, General Manager, UK Expansion, Uber:

Our two co-founders, Garrett and Travis, back in the early 2000s were visiting LeWeb conference in Paris. Those who have been to Paris know that it is a very difficult city to get a taxi in, and they were standing on the street corner, late at night in the cold. They had the brainwave that wouldn't it be cool to take out your phone, tap a button and get a ride, and that is where the thought and inspiration for Uber started. Travis was already a successful entrepreneur in Silicon Valley, so he could see the potential, and see where he could take this idea.

We want to make transportation as reliable as running water for everyone, everywhere. I know a number of important things are part of that vision. Transportation should be so affordable that everyone can use it – it shouldn't just be for the privileged few or those that live in city centres. It should also be available no matter where you live. If you are on a night out in the middle of town, or if you're the end of the train line, a couple of miles from the city centre, everyone should have access to that.

We have riders and partner drivers. The riders are people like you and me, who just want to get a ride at the tap of a button. The partner drivers, these are licensed drivers who want to partner with us on the platform and have a really flexible way of making great money. One of the biggest misconceptions of our business are that our drivers aren't licensed or regulated. Every partner driver has been licensed by their local council, and that means they've had a DBS background check – the same as taxi drivers or care workers – they've been through all the necessary tests that the council requires, and they have a vehicle that is fully insured and compliant with the safety standards of that council. That's really important to us, not just to deliver a great service, but for peace of mind for the riders as well.

We are now in over 20 major cities and towns in the UK and Ireland, and our vision is to continue to grow that. Going back to our vision, of transportation as reliable as running water for everyone, everywhere, we certainly want to deliver that in the UK. We've still got a lot of work to do and there is a huge demand from riders and partner drivers to come to the cities that we haven't yet launched in. Partner drivers average about 27 hours a week, and often have other professions, and are able to tap into Uber to drive to earn extra money. This is a platform and a way for drivers to make good extra money, that everyone needs, whether to save for a holiday or a home, to fund further education or study or just to help make ends meet. I think it is really empowering for individuals who see the opportunity and join us.

Being a technology company, as with many others, data is critical to decision making and improving our business to deliver a better service to the riders and drivers. Something that is great about Uber is its reliability that drivers and riders have, so we need to really understand how we are performing and look into the data to deliver that reliability.



Often the rides are very short. The data that I showed around London and how we compliment public transport there is replicated throughout the UK in all major cities and towns and the transport networks they have. We really see Uber solving for that last mile and filling in between the gaps. If you can get someone to the train or bus station then that suddenly makes bus and train travel a reality. We are really excited to play that role in transforming the cities and helping to support the big investments in transport that many of our cities are making in the future.

The growth in Uber has come from a number of different dimensions. The first has been international expansion and growth into new cities, so we are now in over 400 cities globally. It is also around the popularity and ubiquity of our riders. An interesting stat around that was that over the summer on the south coast of the UK, 41 percent of riders had actually signed up and used the app previously in another country. When they arrived in the UK, they opened it up and Uber was the natural choice for them. I think that kind of network effect and cycle of growth is certainly something that has benefited us too. Since its launch, UberPOOL in London, which is our ride-sharing business, has helped take 1.3 million miles off the road, and that is just in London in less than a year. Obviously the impact on that in reducing congestion, taking CO² out of the air is pretty astounding. I think most people, when you speak to them, and explain that this vision is actually a reality happening right now are pretty excited about the benefits we can bring. Some of the real problems that cities are facing right now, Uber can be part of the solution.

We are bringing competition to an industry that hasn't really changed much in decades, if not a hundred years, so naturally that competition is going to be challenging for some. But I think that when you step back and look at what we provide, and the popularity with our partner drivers and with our riders, and the benefits we can bring to cities that, actually, that vision and that reality are so compelling and exciting that everyone is really motivated to help us succeed.

Ultimately we have built a logistics platform. We want to give our customers and our consumers what they want when they want it. You can get a ride with us at the touch of a button. Now with UberEATS you can get restaurant food delivered to you in a matter of minutes at the push of a button. UberRUSH helps with last mile logistics for small businesses. You can see how we can take the concept of Uber much more broadly. We often have a bit of fun, and one of our stunts is UberIceCream. On a set day each year you can take out your phone and push and get some ice cream delivered to you at your home or work place. Because we are a market place we work really hard on keeping our partner drivers efficient, so the busier they are the more money they can make and it makes the service more affordable to lots of riders, and the more affordable it is the more people will use it and the busier our drivers will be. It is an advantage to both the customers and the partner drivers.

If you speak to any private hire and taxi driver they will tell you the thing they fear most is dead mileage, sitting around and doing nothing, not making money or driving a long distance to pick up a fare. By working really hard to reduce that dead mileage and dead time



by keeping our drivers busier on the platform, that is where we can get the real benefit, at the margins. That is where we focus much of our attention and engineering effort.

Andy Neely, Director, Cambridge Service Alliance:

Scaling up - One of the things that came across to me about the challenges around scaling up are that often, particularly in services, people end up not going beyond the piloting stage, this is one of the bits of research that we've seen. People will offer a service, they'll do that successfully, but then when they come of offer another service they'll almost start it like a new service, and they won't think about how do they optimise the existing service. They instead treat each one like a new experience. I think that's an issue. The thinking differently, particularly in the digital world – thinking about what opportunities digital technology opens up, how you can create value for customers, and indeed how you define your customers is another really important lesson. The third lesson, around scale-up, is the thinking all the time about how you are going to disrupt your own business.

Dr Martinez, Senior Researcher, Cambridge Service Alliance:

There are two types of scale-up – the vertical and the horizontal. The vertical is very much the multiple replication. The horizontal scale-up is by growth – it can be by expansion of the same service. It is thinking about what your service is, what is your market, what size of market do you have and then signalling if you have a good and a big client – stick with the horizontal. If you have a good technology that can be replicated for millions of people, then go for the vertical.

The organisations that I interview are large industrial service providers. They are faced with a dilemma that they are coming from a product centric culture, and they now have to offer a service. So they observe the problem, create design of the problem, create the solution, go and execute the solution with the customer. A typical engineering perspective in solving a problem. However, what is required here is that we go beyond the point of evaluation when you handle the service for the customer. You need to simplify it, to do incremental scale-up and then when your service is strong and big enough go for the active scale-up.

How to get better leadership and better KPIs to help with scale up. One is about the leadership that deals with the vision of taking the services and scaling them up. The second is about how you support this leadership vision with working KPIs. What we observe is that you need a mixture and a good breadth of KPIs from lagging to leading indicators. A typical lagging indicator is the financial ones; revenue, profitability. Leading indicators are those indicators that indicate the future success of your company, such as 'are we filling a blank or sweet spot in the market?'. It is a very easy answer, but if it is an answer other than 'yes' then we should keep going into scaling up in that area because that is the success point for our scale up. We observe from the research we conducted that we need two parts of leadership characteristics. One part talking about the transformational and the other one the transaction, and both of them are complimentary to each other. The transformational look at those kind of indicators to motivate people to get an inspired, not only the leader, but inspire others towards the vision, to make the leader available and have a confidence to lead top management teams. And finally, to have a dual facility to explore and exploit at the



same time. Because we are talking about scale up, exploring new things are important as replicating or exploiting them.

It is not about depth, but more about breadth of indicators. Some that indicate how we are performing, how many customers to we have, how many machines are operating, how many engineering hours are we spending in developing a solution or delivering a solution. But we also need those leading indicators, not many – but are we filling those sweet spots, are we doing something different to the competition. These are the things we need to take into account when we are scaling up services. If you just focus on the lagging indicators for early scale up, they don't give you a good indication if you are going to be strong in the market, so you need to have projections for the future to compliment the lagging indicators.

You need a proper structure, to pilot. A proper process structure where you i) pilot; ii) evaluate; iii) where you go and assess and simplify things; iv) start scaling things incrementally; and v) you do the actual active scale up.

We observed that to have a mixture of both transactional and transformational characteristics is important. The transactional characteristics tell you how you can set your future, your teams and organise your portfolios and organise a service delivery. When we talk about the transformational, you need them very close to you because you need to motivate people, you need to inspire with the vision. It is very different to have a vision with inspiration, to having a vision with no inspiration. This is what describes having a successful scale up made up by people you feel the motivation from. Scale up is part of piloting, it is part of testing. You need to have a leader that is about to switch on for exploration and exploitation, and to manage people – as one of my interviewees mentioned – you need to match the right people to the right jobs. If you have someone who likes to fix repetitive problems just find the right job for him. If you find someone who wants to go and identify problems, go and find the task for him. Match the people to the roles. This will come from the transformational leader.

Having a methodology, like one we have developed, gives you a map to the things I have to be looking at, the key pointers, and also what the things are that I can evaluate myself as a leader. How am I doing, what things do I have to improve. This is something tangible that managers take with them and do the proper evaluation and to put in place plans to improve.

What we observe in our research at the Alliance is that organisations are taking a more proactive part in the piloting and scaling up of their businesses. This is important. How do you build the leadership and team in order to create and enable the scale up of your services? People like to have the pointers and see what they can do better in order to scale up. There has been no literature or tools developed to scale up services. At the Alliance we are one of the first in the world to develop methodologies to help companies to scale up their services with our Seven Critical Success Factors.



Andy Neely, Director, Cambridge Service Alliance:

One thing that was fascinating to me in the talk given by Uber, was the notion of UberPOOL, pooled rides or shared rides, they are deliberately using to try and disrupt UberX – the single person in the car. They are already thinking about how they can use autonomous vehicles to disrupt UberPOOL. So Uber as an organisation is constantly questioning its own business model and saying ‘how can we disrupt ourselves’. For large established businesses I think you have to go through that same thinking and constantly challenge the way of operating and saying how can we disrupt our model today and make it better and more fit for the future. In doing so that is what enables you to successfully scale up and indeed survive.

Brian Holliday from Siemens, particularly talked about the Critical Success Factors, and how they made him think differently about the Siemens business and their journey. He was very clear that they are on a journey from product to services becoming more important and how they need to think differently to how they configure Siemens. He found that the Critical Success Factor framework was a useful framework to help them think about that transformation journey.