Season 3 Episode 5 Productivity Puzzles podcast transcript

Business model innovation and strategic productivity

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BVA: Why is business model innovation the key to an organisation's productivity? What does it take to do it right? And why is business innovation as important and challenging for small and medium size enterprises, as it is for incumbents? We are going to find out. Welcome to Productivity Puzzles on Business Model Innovation and Productivity.

[Music].

BVA: Hello, and welcome to Productivity Puzzles, your podcast series on productivity brought to you by the Productivity Institute. I'm Bart van Ark, and I'm a Professor of Productivity Studies at the University of Manchester, and the Director of the Productivity Institute, a UK wide research body on all things productivity in the UK, and beyond. Welcome to this extra addition of Productivity Puzzles, which is a bonus episode to our trilogy on business productivity, which we have produced in the past few months. We all know how important innovation is for productivity, but new technologies, and new business practices don't just come out of the blue. They happen because firms embed them in their processes, so they can create valuable propositions for their customers. And that gets us at today's special topic, which is business model innovation.

What is it exactly? Why is it key to being competitive in your sector, and why is this so important for productivity, and naturally, how do companies actually do business innovation well? We're fortunate to have one of the Productivity Institute's key researchers, Professor Chander Velu, from Cambridge University, with us today, who is a specialist on business model innovation. Chander just published a new book with Cambridge University Press on this important topic entitled, Business Innovation, a Blueprint for Strategic Change. It's a great book, which articulates how to think of, and act on business model innovation, but it's also packed with examples and cases showing the power of business model innovation. Some of it we will hear, I'm sure, in this podcast. For a link to the book, you can of course go to the show notes.

Chander is a Professor of Innovation and Economics at the Institute for Manufacturing, in the Engineering Department at Cambridge University. He's also a Fellow of Selwyn College, and Associate with Cambridge Judge Business School. Prior to his academic career, Chander worked for Booz Allen Hamilton, and Price Waterhouse Coopers in London, as a management consultant. And finally, he's a Senior Fellow at the Conference Board, where I had the pleasure to work with him during the late 2010s. Which since, we continued in the Productivity Institute, where he leads our research on today's topic. Chander, it's great to have you in to talk about this topic today.

CV: Thank you very much, Bart, real pleasure to be here today.

BVA: We also have the great pleasure to have a second panellist on this show, who's a great fan of Chander's work, and that's no one less than Charlie Mayfield. Charlie is the former Executive Chair of John Lewis, he's currently Chairman of QA Limited, and Charlie is the founder and chair of Be the Business, one of the Productivity Institute's core partners in the space of productivity programmes for small and medium enterprises. And Charlie is also a member of the Productivity Institute's Governing Council. Charlie, great to have you on this podcast, as well.

CM: Thanks Bart, great to be with you.

BVA: Okay, Chander, before we dive into the content of the book on business model innovation, I thought it might be interesting to our audience to hear how you, yourself, got to realise that business model innovation was a, if not the critical topic for business success.

CV: My interest in business model innovation started when I used to be a strategic consultant for Booz Allen Hamilton. This was back in the late '90s, early 2000s. And one of my first assignments at the firm was with a global media company, a global information service provider. And one of the issues they faced was to come up with an e-commerce strategy, and therefore we gathered a team to work on the particular assignment. After several weeks of intense work, we came up with some very, very novel approaches to how the firm leveraged internet based technology in order to develop new business models. Now, it so happens that the senior management appreciated the concepts that we put forward, and the ideas that we suggested.

However, it was very difficult for the firm to actually implement the new business model ideas, partly because there's always an operational issue that was at stake, and was perhaps more urgent than thinking about transforming the business model, so to speak. And a similar issue happened across a number of other assignments that I worked on, and that really prompted me to think, how come, why is it that firms struggle to adopt new business models, given the fact that it's important, strategically, to transform the business model using new technologies. And hence, that got me to think about how to address, and perhaps, look at some of the thematical issues, to understand the decision making, and resource allocation processes.

BVA: So, we'll get a little bit into some of those examples, which I'm really looking forward to during our conversation. Now, Charlie, when I introduced you, I mentioned that you're a big fan of Chander's work. And every reader of Chander's book will be able to attest to that, because you provided a very good endorsement to Chander's book. Maybe you'd like to expand a little on why this is such an important topic viewpoint as a business leader?

CM: Well, first of all, I think I'd just pick up where Chander left off, in talking about the examples of how difficult it can be for businesses to adopt new business models. I've spent my career in, mainly in large businesses, and a bit of time in consulting, as well. And I've seen very much first hand, all the sources of inertia that exist in, particularly in large businesses, all businesses, but in large businesses, especially. And how difficult it can be to get a business model to shift in a significant way. And yet, I've also seen how incredibly powerful it can be if you do manage to make that shift, just how it can enable growth, and in sales and profitability. And how it can dramatically improve competitiveness. And in today's world, where technology is changing, and disrupting how so many businesses are operating, and certainly will need to operate in the future.

It seems to me that it's incredibly important that business leaders are more thoughtful about, not just the need to change the strategy, and to make sure the company is successful. But they recognise that in order to achieve those outcomes, they actually need to pay more attention to changing the business model, and actually tackling, head on, some of the sources of inertia that will make that very, very difficult.

BVA: So, let's go into this, because we have a lot to discuss. I think we should, first, talk a little bit about, sort of, the imperative for business innovation, which we've already started doing a little bit, of course. So how, in your view, does business model innovation matter for productivity?

CV: I look at business models as the means by which the firm creates value, and captures value. And I like to use a very, very simple framework called the four Vs, i.e. to ask ourselves, what exactly is the customer value proposition. How is that value being created, what's the production system. How is that value being captured, i.e. what's the revenue, and cost architecture. And finally, what's the value network, i.e. what are the partners, and complementary firms that a firm need to work with, in order to create and capture that value. A business model innovation, then, involves a transformation of these components, whereby the value created, and value captured would change.

So, an example would be, if you take the airline industry, and you look at low cost airlines. So, for example, Ryanair, or EasyJet, and so on and so forth. We ask ourselves, what's the transformation they have done. In essence, if we look at the value proposition, they have provided a very cheap form of transportation, therefore persuaded customers who would ordinarily drive, or maybe not even fly, to fly with them. Secondly, in order for this particular model to work, the approach is, if they tend to fly, I suppose, regional airports, and therefore, the regional airport authority have got an incentive to fly in there, and they share revenues through, for example, the car rental companies, or the restaurants, or the hotel chains that are selling complementary services.

So, therefore, the revenue is shared with the airlines, in order to enable economic development in the particular region. Now, in order for this business to work, we need a whole series of partners, as well as the airlines tend to increase the rate at which they need to fly the aircraft, so to speak. So, therefore, the turnaround rate of these aircrafts are very, very fast, and they tend to have a common fleet. So, if we then ask ourselves the four Vs, i.e. the value proposition, value creation, value capture, and the value network, it's quite different from a traditional airline, that tends to sell tickets in such a way that they, perhaps, break even on an economy fare, and make a return on business class fares, and so on, and so forth.

So, therefore, here’s a way in which the transformation happens, so a new value proposition is created, new growth is created, new productivity, i.e. productivity improvement takes place, because the input to output ratio may be enhanced. So, that’s the relationship between business models, and productivity.

BVA: So, is business model innovation always disruptive, to use that terminology?

CV: It can be disruptive, and quite often, it is. But there also means by which a business model could be sustaining, i.e. improves the way a current proposition is done, as opposed to radically changing a business model. And quite often, firms may adopt technologies in different ways, and quite often, they think about, initially, a new technology in a more sustaining way, i.e. to improve the existing business model. And therefore, on the back of that, they come up with new ways in which to think about new value propositions, new ways to organise their production system, and therefore it can be disruptive.

CM: I've had the pleasure of sort of, seeing business model innovation in practice in organisations. And my experience of it, in organisations, is it's generally much more of an evolution, than a revolution. But, for example, when I think about the most significant change I've seen in my business career, it was actually at the John Lewis Partnership. Where the business went from being, essentially, an analogue, physical, retail business, to being a thoroughly modernised, online, multi-channel organisation, over the course of about 15 years. And to achieve that, the business model had to change. If I'm perfectly honest, we didn't talk about it as business model innovation, but we certainly experienced every aspect of it. And from the beginning, of course, where you know, a hundred per cent of the sales were made through physical shops, by the end of it, you know, as much – actually during COVID – as 65, 70, or even 100 per cent of sales were being made through online.

And that's an enormous transformation, and was pivotal to the success of the business through much of that period. But required enormous changes in terms of behaviours, beliefs, attitudes, technology, you know, incentives, systems, a whole gamut of things had to change. And so, I think we were fortunate in many ways, is that we got onto a wave which was small at the beginning, and then it grew, and grew, and grew, and it gave us tremendous momentum, which carried us through a period of extraordinary change. And I think that was perhaps one of the most significant examples, of my experience, of business model change, and how critical it is to driving the success of a business.

BVA: But what's interesting about that, Charlie, is that even though you are saying it's more evolutionary than revolutionary, it is transformative in terms of a lot of different things have to change, within the company, but also with your suppliers. I mean, Chander gave the example of the airline industry, it's not just about your company, but also with your suppliers, and your customers. So, in that sense, it is disruptive, because it's not just one small thing that is changing here.

CM: Let me go into it a bit, in a few details, I can give you a couple of vignettes. I mean, right at the very early days, I remember when we bought a dot.com business, which was about to fail. And, effectively, what we bought was 60 people who had launched an online business in the UK, this was back in 2001. And within seven months, we launched johnlewis.com, which grew to become, you know, a really significant part of the whole business. But I remember in that first season we said, look, in order to get traffic to the website, we actually need to have a physical catalogue. And the business had never done catalogues before. And so, we went along to see the buyers of the products, and we said, look, we need to have a catalogue. And by the way, that means we need to have the products that you want to have in it, we need to photograph them three months ahead, we need to know what price you're going to sell them for, we need to have standardised descriptions of these items.

And, frankly, we were met with a wall of scepticism, and sort of, actually, resistance. Because the buyers had been used to saying, well I'm going to have the product arriving in the UK, maybe last week, I want to be able to decide what price I'm going to sell it at, by looking at the market, in the shops, literally, close to the market, to see what I want to set it at. And I want the flexibility of being able to adjust that in the moment, in a physical shop world. Now, of course, in an online world, you don't have that flexibility, because you've got to get some of these things done, you've just got production processes, and things that have to be done carefully in advance. So, the truth is, we had a really bad catalogue, it was all over the place, it had little bits and pieces in it, what we'd been able to grab together.

What happened, though, what people noticed, was the products that were in the catalogue, even though it wasn't a very good one, sold really well. And so, the next time we came to ask buyers, we said, we need to have, you know, the products, and we need to have them three months before, and we need to have the descriptions, instead of being met with, sort of, a lot of resistance, there was less resistance. And then, with each successive time we did it, it basically melted away, and it melted away because, of course, what was happening was, we were accessing people, customers, and they were seeing products in a different context, without having to come into the shop. And that was driving sales, and the momentum of those sales made a huge difference.

So, you're right, you have resistance, but then if you can, sort of, get going on some of these journeys, that resistance can be melted away. And then of course, nowadays, you know, it's absolutely standard that any buyer in the John Lewis Partnership knows that they've got to have their products listed in a particularly organised fashion. It's highly disciplined, it's very structured, it's a real process of production. But that is a world away from the situation that we were in which was, you know, very autonomous for all the buyers at the start. So, that's just one little, sort of, vignette.

If I also then talk about it from another level, perhaps from, sort of, the economics of the business model change. One of the most interesting things that we came to understand in the course of the journey was that, when you're running a shop, a physical shop, it's essentially a fixed cost operation. So, fundamentally, you stock it, you pay the rent, you pay the electricity, you pay the staffing. And then, if your sales come through above, and they cover the level of your fixed costs, every sale above the level of fixed costs, sort of, converts to profit at pretty much your gross margin. Which is, you know, somewhere in the sort of, 40 to 60 per cent level. The sales above that level become highly, highly, highly cash generative. And so, in good times, that's why retailers often made a lot of cash.

When you then go into an online world, though, actually, you move from being, essentially, in a fixed cost world, to being in a variable cost world. Where every single time there's an order placed, you probably had to pay Google, or do some kind of, you know, pay something to acquire the sale. You certainly then had to pay somebody to pick the item, you certainly then had to pay someone to ship the item. So, you've got, and then you might have a whole load of associated things with returns, and all the rest of it.

So, there's a whole range of variable costs. And, fundamentally, what that translates into is that, as sales come out of your fixed cost channel, and they move into your variable cost channel, even though on the face of it, those two channels look broadly similar in terms of profitability, you actually need two pounds of sales here in the variable cost channel, for every pound of sales that you're losing in your fixed cost channel, to make the same cash.

And it's an absolutely fundamental shift. In some ways, why retail profitability has come under such pressure over time. But it was also why one of the other major parts of our journey was to invest hugely, and hundreds of millions of pounds, in technology to automate, and improve the scale advantages we had, in terms of our supply chain, and our ability to conduct some of those costs, and do them at high accuracy very, very quickly. So, enormous changes within a business model, and both from the very, sort of, human level, but also in terms follow the economics, and the way the business works. And then, the decisions you need to take around capital expenditure.

BVA: Great examples. And Chander, I think it's interesting that, you know, Charlie is talking about, you know, his experience in a big, existing, incumbent company. And I think, in your book, you actually do specifically describe for incumbent companies, it's actually quite challenging to do business innovation. So, what are the specific challenges that these large, incumbent firms are facing?

CV: I think, to Charlie's point, you know, one can perhaps summarise them in terms of two major hurdles. One is what is called the cognitive barrier, i.e. how the senior management frames what the business model is. And the second is what I'm calling the reconfiguration challenge, in terms of what are the challenges in the firm, trying to reconfigure the processes, and the means by which the business is conducted. Just to provide a couple of examples. If we look at the cognitive challenge, and a good firm to look at is Polaroid, right. It was a very successful firm for a long time, partly because they transformed photography, so to speak, i.e. the predominant firm at that time was Kodak, with chemical based film. And Polaroid changed that by enabling the processing of the film within their cameras, so to speak.

So, therefore, they effectively brought the processing within the camera, and therefore you could take one click, and get the photograph. Now, one of the great things about Polaroid's approach to photography was the fact that, they followed this razor blade model. So, they sold their camera very cheaply, and therefore enabled the sales of films at a premium. And hence, this is the razor blade model that, you know, Gillette uses as well, razor very cheaply, and sells at a premium price, the blades. Now, it so happens that Polaroid knew a lot about digital photography, in fact they held a lot of the patents on the back of this. But digital photography did not fit the razor blade model because, as digital photography developed the distinction between the razor and the blade, i.e. the camera and the film, effectively blurred.

And therefore, when they applied the cognitive frame, i.e. the business model frame that they had, to digital photography, it did not fit, and therefore they rejected it. And other firms came in, took on the digital photography technology, and therefore commercialised it subsequently. So, that's one challenge. The second challenge is the reconfiguration challenge, and a good example is how Blockbuster responded to Netflix. So, Netflix came in with, effectively, an online proposition to deliver films via the postal service. And Blockbuster, initially, did not do anything, but then subsequently, just like Charlie mentioned, you know, it launched blockbuster.com, in order to compete with Netflix, but kept their physical footprint as well. And therefore, they persuaded the customer, this is a better proposition because you can receive your DVD by post, as well as go to a store, and get a DVD or a film.

But it turns out that, that was a big challenge for Blockbuster, because in order for this business model to work, they had to remove the late fees that they had, which was about, generating about ten per cent of revenues, about £600 million for Blockbuster. In addition, that if customers were to return the DVDs, the stock that they've received via the postal service into the stores, it increases inventory costs. So, a very, very small change suddenly increases the costs dramatically in costs and revenues, and therefore they struggled in this new world, and hence, eventually Blockbuster went bust. And those are the two principle challenges, and if you look at all of these firms, those are the major issues, i.e. how do you get over the cognitive challenge, and then the reconfiguration process that needs to take place.

BVA: Okay, we'll pick up some of that more further down the road. Because I think, how do you overcome these challenges, essentially, is a key issue here. But before we move on, there's one thing I want to make sure of, that the audience understands. I mean, a lot of our audience could respond to all this and say, well yeah, sure, I get all this, but that's what I'm doing, I mean, I have a strategic approach to my business, so you know, I'm doing this. I think you make a very specific point that business model innovation, and business strategy are different things. Can you explain that?

CV: Yes, absolutely. So, business strategy is about the contingent plan, i.e. what do you do as an organisation if things around you change, i.e. technology changes, customer preference changes, regulation may change, and so on and so forth. So, it's a contingent plan about what you do as a business. The business model itself is the go to market strategy, how do you choose an appropriate way in order to deliver that strategy. And then the third element is to understand an operating model. So, as firms grow bigger and bigger, they tend to organise themselves by function, in order to optimise a particular business model. And quite often, the big challenge a lot of organisations face is, they have senior management thinking about strategy, and then they have other parts of management looking at operational processes, i.e. functional responsibility to optimise the business model.

But quite often, there is a chasm, i.e. nobody owns the business model itself. So, therefore, there is a tendency to adopt new technology, and respond in a very tactical way, rather than rethinking the business model, so to speak. And hence, the configuration challenge comes about, so to understand this distinction between what strategy is, what business model is, and what operational model is, and the functional optimisation. And the ownership, i.e. the leadership, and ownership of these different component parts, and how they need to be done in a more holistic manner, is a big challenge in itself.

CM: It really resonates, what Chander is saying. Because I think some of those things are examples of cognitive challenge, others are examples of reconfiguration challenges. And I think your question really, Bart, about sort of, strategy versus business model innovation. Yeah, I've just seen so many instances where, you know, a business develops a new strategy, and but doesn't pay enough attention to the business model implications. And therefore, doesn't actually recognise, or tackle the inertia that's going to get, significant compromise their ability to execute the strategy. And this comes down to some very behavioural things. You know, if people are incentivised on the performance of today's business, which most people are, of course, for good reasons, then you know, they're going to, first and foremost, think about what they're going to need to do to protect that business, and the performance of that business.

And very often, certainly if you're making a significant change in strategy, and you're making a significant change in business model in order to achieve it, then you're going to, very likely, have a consequence in terms of the performance of the business. And therefore, it will be resisted. And in some ways, I think in the John Lewis Partnership, one of the things that enabled us to execute a major business model change was because we had a policy of not having individual bonus structures. We didn't have management incentives, where people were heavily, heavily incentivised on the performance of today's business. We actually had a collective approach to renumeration, which actually encouraged more of a focus on the future, and on the development of the business. So, these things can be really significant obstacles, if they're not thought about.

And I think what Chander is really saying is, if you're running a business and you're thinking about your strategy, you need to think as much about your business model, and how you're going to change it in order to effect that strategy successfully.

BVA: Now, let's move onto one of the key catalysts for business model innovation, and that's digital technology. It's not the only way to innovate business models, but it is perhaps, certainly today, absolutely a key enabler. And Chander, this is a topic where you and I worked on before, at the Conference Board. And as a productivity economist, I'm coming to this from the perspective of the so-called productivity paradox, which was captured very well back in the 1980s by Nobel Prize winner, Bob Solow, who at that time said, you see computers everywhere, except in the statistics. And it takes a long time before technology translates itself into economy wide, broad based productivity. And that's partly a measurement problem, you know, we did eventually see productivity from IT in the statistics. But more importantly, it takes time for technology to translate itself into productivity.

And that is, I think, where our work meets. Because your work shows what it requires for firms to digitally transform themselves, because that transformation process is the way that you can get from initiating this, to actually seeing the results. So, take us a little bit through that process, and the challenges, the barriers that firms have to overcome?

CV: To understand this, we need to understand what digital technologies do. I think, they play an important part in two ways. One is what I'm calling the separation of content and medium. So, for example, if you look at how we are able to read a book, previously the content and the medium, i.e. the book is printed, and therefore you can only read the content through a printed book, so to speak. But today, we can actually read the book in different format, so to speak, right, electronically we can read it on a computer, on an iPad, on an iPhone, and so on and so forth. So, therefore, there's a separation of the content and the medium.

And then, the second thing that happens with digital technologies is the separation of form and function, so to speak. So, previously, there was a coupling of the form of a particular material, a product, and its function. So, for example, if you take a car, with the emergence of Uber, and so on and so forth, we are switching a car from being a private car, to a taxi, and back to a private car, so to speak. And therefore, this is switching between a form and function of physical products. This then enables two things. One is improving efficiency, because we can reduce the transaction costs in economic terms, as well as, we create new value propositions for the customers.

So, when we go back to the so-called productivity paradox, what happened when digital technologies came on board is, initially, they were used in order to improve something that was an analogue process, i.e. there was a physical transfer of information, and initially, that was digitised. So, therefore, there's some level of efficiency improvement, let's say, in a manufacturing process, and so on and so forth. Subsequently, once that is done, it turns out that if a firm was producing one variety of a product, they could actually now produce two different varieties. To say, you know what, we are more efficient, we can think about what the customer wants, they want two different types of products, and so on and so forth.

Over time, new technologies were invented on the back of these digital propositions, for example, a CAD type solution, i.e. design systems in order to come up with new products, and new services. And then, enable new business models to emerge, i.e. new value propositions to be created. And over time, that enabled improvements in productivity, because efficiencies improved, and new value propositions were created. And firms changed from just being a make and sell proposition to senses met, i.e. you understand what the market needs, come up with new product, and new varieties, and then respond. In the same way, you know, if we look the productivity paradox, if we look at the retail business, Walmart transferred the retail grocery business in the US. But what it did was, effectively, initially they invested in a lot of technologies to transfer information between themselves and their suppliers.

And over time, they transformed the business model in such a way that they need not hold the inventory, and they got their suppliers to deliver as and when it was needed. So, over time, the kind of, transparency in terms of information across the supply chain enabled faster response, increased production, increased variety, and that enabled productivity improvements over time, as a result of digital technologies.

CM: I'm going to reflect on my career, and my experience. There have been areas, where we've invested which have been digitally enabled business model innovation, has delivered fantastic returns. And what I've already spoken about, the John Lewis Partnership becoming a fully multi-channel, you know, digital organisation, is an example. I could equally say, though, that the amount of investment that we made in improving, and digitising existing processes, generally speaking, never delivered a high return, and yet, has cost millions, and millions of pounds. And when you look across industry worldwide, if you added up the amount of money that people have invested in technology of various kinds, ERP solutions, all of these things, generally speaking, you will find it very hard to find a case that says, this has improved the profitability, and the sort of, productivity of the business.

Probably, people would acknowledge these are necessary changes and modernisations. But they haven't driven outsize returns, certainly nothing like what people talk about in the context of technology. And the reason for that is because people don't do enough transformation, they do digitisation, but they don't do the transformation. And you have to do one with the other to get the return. I'll just give you another quick example. I mean, one of the businesses I chair is a business called QA, which was a fairly traditional, analogue training business. I mean, if you were in the IT industry, you probably did a course with QA years ago. And frankly, until about 2019, you know, we operated by filling classrooms with people who were learning code in Python, or learning to be an Azure architect, or such like.

And you might have, let's say, a dozen people in a classroom, with a trainer, who would take people through some content. And then, you know, a corporate would pay us, someone to attend that course for maybe five days, it was pretty much, residential, you know, and they would pay us a handsome sum for that, and the job would be done, and we'd hand them back. You know, fast forward it to COVID, and of course, like so many businesses, we had to completely change our business model, you know, in the face of that, because there were no classrooms. So, we had to become digitised. But if you think about digitising what we were already doing, you know, it's a really unsatisfactory experience. If you simply take what you used to do in a classroom, and you turn it into a whole load of slides that you can just show somebody online, but you lose all of the social interaction.

You lose all of the sort of, contact with the trainer, the dialogue, the chats over coffee, all those kinds of things, you lose a lot. And to be honest, it's not nearly as effective. And so, that is a sort of, example of digitising, but not transforming. So, what we are actually doing is, we are transforming our delivery of learning through technology. The cognitive challenge is the first point. You have to shift, cognitively, how you're thinking about this completely. You stop thinking about content, and you start thinking about the learner. And you start saying, right, I might not be having a classroom of people learning how to code, with 12 people in the room, I might have 100, I might have 200, I might have 300. And then I actually have to, then, go through the work of figuring out, what can I teach them best, face to face, or virtually, and what is much better for them to learn in their own time.

And by the way, the answer to both of those questions depends, somewhat, on what they already know. So, imagine you were trying to teach 100 people to code, you'd really want to know, first of all, is how many of them have already coded in a different language. Because they need a different experience to people who are starting out for the very first time, and they've done nothing like this before. So, what you actually have to embrace is mass personalisation. And the beauty of technology is, of course, it enables all these things. But cognitively, I could go on, but cognitively, you have to reimagine how you're going to deliver your entire value proposition. And fundamentally, you know, what we as a business are doing, is moving from being, basically, a fairly analogue training business, to being much more like a platform based SAS business.

We're selling global corporations, you know, effectively, a SAS product, which is highly personalised, very platform-ised, very tailored towards individual learners. And also, very much geared towards driving a return on investment, and showing people that change. It's a transformation. And if we had just done the first part, the digitisation…

BVA: You wouldn't have got there, yeah.

CM: …frankly, we would be failing.

BVA: Yeah.

CM: And deservedly so.

BVA: I can't do any podcast without mentioning the word, AI. So, is AI an implementation of just another example of the digital information, or are there some specific issues about AI, that makes the productivity paradox, and the need to rethink your business model, more urgent, and more imminent?

CV: What digital technology has done is, it's given us the ability to collect a huge amount of data, for example, using sensors, and using other forms of the technology. So, here's an opportunity now, at the same time because of the volume of data, there's an opportunity to process that data, and get further insights, so to speak. And these insights could be, you know, predicting when a particular asset is likely to fail, for example, to looking at consumer trends, and so on and so forth. And I think, similar to the issues that we looked at in terms of the evolution of just digital computers, we're going to face a similar problem, i.e. there will be a process of transformation, and there'll be a cost to that transformation, and there could potentially be a slowdown in productivity. And therefore, a subsequent uptake, once we rethink about what are the real good opportunities that AI brings.

So, an example would be, you know, if you take a firm like Caterpillar. Caterpillar just used to sell earth moving equipment, let's say. And they were reliant on, partly, on the equipment failing, because they earned about four times the revenue from spare part sales, compared to the sale of the equipment itself. Now, over time, customers said, no, no, we don't want that, we're not going to pay you if the equipment actually fails, because it's a cost to us. So, therefore, they started embedding sensors into their equipment, and therefore, they were able to predict when these equipment are likely to fail, and make sure the parts are replaced, and so on and so forth. But in doing so, what has happened is, they're able to gather a lot of information about the usage of those earth moving equipment, and therefore, advise their customers on how to optimise the use of the equipment.

So, in the sense that you say, oh you know, you've been using this equipment on the wet part of your construction site, why don't you use it on the more dryer part, because that would then lengthen the use of the equipment. Now, this is all driven by AI in the background, but over time, this equipment can be integrated, let's say, into a weather system, into let's say, a farming seed planting system, and so on and so forth. Which then provides even more information, which then enables AI to be used to advise the customers even better, in terms of how to optimise their farm, and their seed planting, and their harvesting, and so on and so forth. So, that's the transformation that is likely to happen as we go forward, so therefore, AI is an enabler. And there will be a cost, because you need to reprogramme, or reorganise the different processes, and connect to different partners, and change the business model to really get the uptake in productivity, and the benefits.

BVA: Well, there's a lot more to discuss, and particularly we need to talk a little bit about small and medium size enterprises, and how they do business model innovation. And also, how business model innovation relates to today's challenges in the net zero economy, that you already started to talk about a little. But before that, let's first hear about what else is happening at the Productivity Institute.

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F: The Productivity Institute is a UK wide research organisation that is dedicated to understanding and improving productivity. Research covers a wide range of topics, including business investment, and innovation, skills and further education, foreign direct investment and trade, and the transition to net zero. The Institute also provides detailed analysis of productivity in the English region, Scotland, Wales, and Northern Ireland. Visitcwww.productivity.ac.uk, to access the Productivity Institute's resources, including research papers, blog posts, insights, and regional productivity scorecards.

BVA: Welcome back to this special episode of Productivity Puzzles, a bonus in our series on firm productivity, where we discuss how business model innovation is key to productivity, based on a new book titled, Business Innovation, a Blueprint for Strategic Change. And we are discussing that, of course, with the book author, Chander Velu, from the University of Cambridge, one of our TPI partners. And we benefit from the reflections of Charlie Mayfield, based on his broad business experience in large, and in small firms. And indeed, before the break, we already spoke about business model innovation, particularly from the perspective of larger firms. But, Chander, you argue that business model innovation is equally important for small and medium size enterprises, although perhaps in a somewhat different context, and a somewhat different way. So, what are the specific challenges that small and medium enterprises are facing?

CV: Business model innovation is just as important for small and medium size enterprises. However, they perhaps face a different set of challenges, compared to larger firms. I suppose, one of the fundamental issues is, perhaps they see less of a need, so to speak, to transform their business models using digital technology. And this is partly because there may be a lack of resources, or even perhaps, a lack of managerial vision about what exactly needs to be done, and the skills, and the type of people, perhaps. And also, I suppose, the other thing is, we talked about digital technologies having a period of costs, so to speak, before the benefits come through. And if you are a smaller firm, perhaps there's less of an ability to wait for those benefits to come through, and therefore, there's a tendency not to want to invest, because there is a cost to the investment, waiting for the transformation.

BVA: In a way, small and medium enterprises don't always have all the capabilities to do business model innovation, on their own, to do it in house. So, we need to look at them, also, probably more from the perspective of cooperation, for example, as part of a supply chain, or some kind of different ecosystem. So, can you give some examples on how SMEs can innovate a business model within a supply chain or ecosystem?

CV: So, across the supply chain or ecosystem, I think there are two ways to think about it. One, it can enhance the ability of SMEs to innovate. On the other hand, it can also act as a barrier. So, let me take an example in the aerospace industry. So, the UK has got a very large aerospace sector, and quite often what happens is, the large, what we call the OEMs, which are the firms that request the products. So, let's say, it could be Rolls Royce, or Airbus, and so on and so forth. And there’s a huge supply chain which consists of tier one, tier two, tier three, tier four suppliers, and they pass down the activity down the supply chain itself. And there is a tendency for some of these large firms to source globally for the product, and therefore, they tend to push the price, they put more pricing pressure into the supply chain.

And that causes some of the supply chain, not being able to innovate, because they are under-investing in some of the softer capital, the human capital, the organisational capital, and information capital, and so on and so forth. So, therefore, that can act as a barrier. But at the same time, supply chains can be enhancers, so to speak. Because the large firms want to transform their business model, and therefore they force the change right to the supply chain to say, right okay, we are going to give you the training, we are going to give you the expertise, we’re going to help you transform. And that can be an enhancement.

The other way is ecosystems, so for example, if you look, in China, Alibaba, when it tries to go global, it specifically adopts a process by which it trains the senior management, and the employees of some of its suppliers, in order to enhance their digital capability, and the digital transformation capability. So that Alibaba itself is better able to respond to a global export chain, and so on and so forth. So, these are the different ways in which SMES can benefit, as well as it can be a barrier.

CM: I suppose, the first thing I'd say is that, I think it's dangerous to generalise. But amongst small and mid-sized businesses, in many respects, there's more potential for business model innovation. However, it's also more difficult, sometimes, to accomplish it. If I build on Chander's example of a supply chain, I think that, that can be an enabler, but just as you, sort of, indicated, if the person at the top of the supply chain is really, essentially, is demanding always the tightest price, and sort of, pushing the commercials, which often they will do, because they're a commercial business, then you know, it's likely that the smaller organisations in their supply chain, are basically spending almost all their time focusing on how do I manage to meet ever tighter demands from my OEM customer.

Which creates a huge amount of operational pressure, and it requires an enormous amount of attention. Now, at some level, probably the only way to meet that, particularly if it's a global, competitive industry, is for the senior leadership in that small or mid-sized firm, to take the time to lift their heads up from trying to run faster, and to realise that there's a way to run better, and to do that. But that in itself is one of the biggest hurdles that prevents small and mid-sized businesses from making the business model change. It is literally, I've seen it many times in the work that we do with Be the Business, is people not recognising, or not creating, or not being supported to create enough time to lift their heads up from the day to day, to recognise that, actually, they need to make some more fundamental changes.

When people do do that, they're in a great position to drive it. Because they don't have to go and ask a board, or go through a whole process of decision making, if they get convinced that this is the right thing to do. They actually have the ability to execute that really well, provided they're well supported. And of course, you know, that is also another thing which is that, particularly when it comes to implementing technology, it is complicated. And Chander, you've spoken before about some of the work that Made Smarter did in your book, where you need to support people once they've achieved that realisation that they need to make change. So, more potential, but can be more difficult, it's very important.

BVA: So, you mentioned Be the Business, and also, UK Smarter, and other business type support programmes, private or Government. I think a question to you, Charlie, is do we have a good set of business support programmes that deals with this business model innovation, kind of thing? Can business support programmes help in this respect?

CM: There's absolutely no doubt that they can help. I think, I'm afraid, the evidence of the UK's productivity records suggests that we don't have a particularly good, effective system. The system as it stands today is not working well enough to drive an outcome which we would be happier with in terms of productivity growth. And some of that is because, I think, there are many businesses that are not taking enough time to think strategically about the changes they need to make. And if they did, they could actually achieve much, much more. The good news is, I think that situation is resolvable, it really is resolvable. And there are many very good organisations in the UK that are supporting businesses, and all of them are doing a decent job, and making a contribution.

My personal view is, there's scope for us to sort of, make those individual efforts, more part of a collective mission, that drives something more fundamental in terms of change across the United Kingdom. And it's much needed, because we need that for, you know, to achieve improvements in productivity, on which so much of our economic and social progress depends.

BVA: Chander, when we talk about small and medium enterprises, obviously there are a huge variety of different types of firms, you know, there are incumbent firms, or family firms, which we could talk about for a long time. But also, there's start-ups, and you make some interesting observations about start-ups. Because, in a way, you could argue that business model innovation is coming, sort of, naturally to them, but at the same time, you also find that start-ups, particularly when they start to collaborate with others, can actually be hampered in terms of building a good business innovation model. Can you briefly talk about that, because it's a sort of, interesting perspective on the topic?

CV: That's absolutely right. And the way, I suppose, to think about start-ups is, I know for example, in Cambridge, we have a number of start-ups coming out from our science labs, and so on and so forth. And some of these have got a very, very long gestation period, so to speak. The way to think about start-ups is, the objective of the initial business model should be about creating a new market, so to speak. Quite often, the market may not exist for a particular new proposition, so therefore how do you create a market. So, therefore, the business model design, in order to create a market, may be quite different from the business model that is required to scale up the business. And quite often, I suppose, entrepreneurs lack an understanding of this distinction, i.e. how do you create the initial business model in order to create the market, i.e. that requires building the network, convincing your stakeholders, and so on and so forth.

Once the market is beginning to develop, then the question is, how do you then pivot your business model in order to scale the business up. And this can vary depending on the kind of industry you are in, if you're in a very deep scientific proposition, trying to build a new business, compared to being in a, perhaps, less high tech area. And the process by which the market needs to be created, and then scaled up, may look very different. And I think that's a very important distinction in terms of understanding business models within start-ups.

BVA: Okay, let's move onto the last topic, because it's sort of, broadening it out a little bit. We already talked about how business model innovation by one firm is touching on what other firms are doing. But sometimes it goes much broader than that, and it's also touching on what society as a whole is doing. And that certainly is true when we talk about sustainability, and net zero tradition. In your chapter on sustainability in the book, you started that chapter in a very powerful way by saying, business as usual is not an option for building a sustainable future. And that's, of course, true for society, but it's also true for firms themselves.

So, the role of business innovation is important, as we know from sustainable development goals, the many possible angles, including reducing pollution, and to transition to non-fossil energy sources, the protection, and support of biodiversity to support a circular economy, and so on. So, why is business model innovation a particularly powerful concept in such a big transition as the move towards net zero?

CV: I think, in a lot of these net zero based, or generally, sustainability kind of issues, like climate change, or use of national resources, or biodiversity, the challenge is, how do we internalise externalities, so to speak. Quite often, what's happening in this context is the users of the particular products or services are not paying the true cost. And somebody else is incurring the costs, and therefore there is an externality, and hence the resources get depleted, overused, and so on and so forth. And over time, there's a cost to society. So, the question then becomes, how do we internalise these externalities, in terms of making it, first of all, more transparent, i.e. quite often, it's not very clear who is using, and who is paying the cost.

It's all about pricing them appropriately, or even thinking about designing business models in such a way that firms appreciate, and understand the responsibility they have to society. Because at the moment, we are consuming roughly at the rate of 1.5 resources, it takes about 1.5 years to rebuild the resources that we use in a year. And this requires changes across technologies, i.e. sometimes you need new technologies to address some of this climate change, or you know, natural resources, or biodiversity type issues. We need social change, i.e. how we as consumers use those products and services, as well as organisational change, i.e. firms need to reorganise how they operate. And therefore, the business model dimension becomes very critical in addressing some of these sustainability type issues.

CM: So, when it comes to sustainability, I think this is obviously one of the challenges of our age. It's going to require businesses of every size and shape to participate in this transition. It's another reason that people need to change their business models, because they probably won't be able to achieve the changes that are required without making changes to their business models. And I think, from a small business perspective, you know, it's something which people are individually very concerned about, and have the potential to do a lot with. But actually, you know, there are also the barriers, and the reasons that it's very difficult for an individual business to make changes that they feel are going to be very significant.

So, I think this is an area where it's particularly important that the Government, and the regulators create the right incentives, both positive and negative, to reward effective transition. And also, to support the key technologies, and support the adoption of those key technologies, such that we are able to achieve those improved outcomes.

BVA: Yeah, and that really leads me to our last question, Chander, and that's sort of, the policy implications of this. So, there's all this discussion now about new industrial policy, right, and particularly in the part of climate change, and sustainable growth, we think very differently, or we want to think very differently about industrial policy. But I've never heard an industrial policy maker talk about through business model innovation. You know, it's at best about, we need to collaborate with business, or something like that. Doesn't Government actually have to become part of this thinking around business model innovation, and it's not just business model innovation, it's probably also, Government innovation that we need to talk about. Any thoughts about that, how is that linked with policy going to be redrawn in light of those recent experiences?

CV: I think that's a really important point. Because, you know, if you take a very, very simple example, if we look at the transition to using hydrogen, let's say. It could well be that the costs of production may not necessarily be covered by the revenues. So, therefore, there is an industrial policy here to say, right, how do we overcome this economic issue of ensuring that the technology can get scaled up to a particular level, before it becomes profitable. But related to that, there's another aspect that I think Government needs to understand, because just by enabling that scale-up, it's not sufficient, because we need to also enable the transformation of business models.

So, let's say you take the example of electricity for buses, let's say. And imagine a system whereby the buses are getting a recharge, because the electricity grid system is under the road, itself, as opposed to today, where the buses are using, you know, some kind of a carbon based fuel. If such a system, where the buses are getting recharged as they drive along, will require a connected system to the grid. And therefore, the payment structure, as the buses get driven around, will be very, very different, compared to the current system that we have, that just gets refuelled using a carbon based fuel.

So, therefore, the business model of the electricity generator, the transportation company, who gets paid, how they get paid, how does the customer pay for it, would all need to change. Even if the economics of producing the electricity is sufficiently to cover the revenues, to cover the costs, it still requires a transformation of the business model. And that's where, I think, Government needs to fully understand, what are those kinds of transformation, do we need to subsidise, do we need to enable it, and what kind of incentive do we need to put in place in order for that transition to happen, and for us to achieve a more sustainable economy.

BVA: Yeah, and I think that's really a plea for a need for more Government people to understand business better, perhaps, and for businesses to better understand the role of Government, and of regulation. Not all regulation is bad, sometimes regulation can help to move business model innovation forward. So, there is a lot of other lessons to be learned, perhaps for another book. There's already so much in this book, which I can highly recommend, and we only have been, sort of, scratching the surface here. So, I highly recommend, it's Business Model Innovation, a Blueprint for Strategy Change, published by Cambridge University, by Chander Velu. Thank you very much for joining us. And Charlie Mayfield, thanks a lot for giving a lot of colour around it, which sort of, helped to bring the topic even further to life, much appreciated.

CV: Thank you. Thank you very much, Bart. And thank you, Charlie.

CM: Thank you.

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BVA: You can sign up for the entire Productivity Puzzles series through your favourite platform, to make sure you also don't miss any future episodes. If you'd like to find out more about upcoming episodes, or any other work by the Productivity Institute, please visit our website at productivity.ac.uk, or follow us on X and LinkedIn. Productivity Puzzles was brought to you by the Productivity Institute, and this was me, again, Bart van Ark, at the Productivity Institute. Thanks for listening, and stay productive.

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