

Endava Series 2, Episode 11B – The Role Of Data In Construction & Social Housing

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BRADLEY HOWARD. ENDAVA HOST (BH): Welcome back to Tech Reimagined. Our guest today is Sarah Thomas, the CEO, Chief Executive Officer, of Catalyst Housing, here with us to discuss how technology influences the housing and construction industry.

Hi, Sarah, it's lovely to have you here. Can you tell us more about yourself and Catalyst Housing?

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SARAH THOMAS, CEO CATALYST HOUSING LIMITED (ST): Hello, Bradley. Yes, yes. Of course. So, as you said, I'm the chief executive of Catalyst Housing. My name is Sarah Thomas. Catalyst builds and manages homes. We own and manage 37,000 homes with around 70,000 customers renting or buying homes, and we develop 1000 homes, new homes, a year to contribute to the supply. That's a mixture of affordable rent, affordable homes to buy for people who can't afford to buy on the market, and also market sale homes. We're a not-for-profit organization, which means that all the profit we do make from our market sales activity, we put back into the supply of new affordable homes or improving existing affordable homes.

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BH: Welcome to the show. It's lovely to have you here. So, can we start off with, what are some of the fundamental benefits that data can bring to the construction of social housing projects?

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ST: Well, we use data for two reasons at Catalyst. Firstly, to understand our buildings, and secondly, to understand our customers. Now, when it comes to buildings, that could be through the construction of new homes or it could be the maintenance and sustainability of our existing homes.

And then with customers, it's really to understand the customers and that could be demographically, or it could be through what products they use or services they use, but it can also be to learn more about them from an experiential point of view and a relationship point of view.

Our customers tend to be with us for long periods of time. Typically an average will be around seven years, but we can have customers with us for 30 years plus. So, building that relationship, creating trust, is extremely important to us, and also knowing and understanding our customers. And data is one way in which we can do that, and can help us to do that well.

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BH: So, how do you use data in order to find out where you should be building the next set of buildings?

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ST: So, we have three markets that we operate in. So, we build affordable homes to rent, affordable homes for sale, and market sale homes. And where we build those homes will depend on different sets of data around demands and supply. There has been for a long

time and will be for a long time to come, I expect, more demand than supply for affordable homes.

So therefore, we look at where can we work in partnership? Who can we work in partnership with? Where can we provide affordable homes that really meet the largest need? Because there is a need everywhere. And that will be working with the councils, that be working with the government. And we also work in private partnerships as well.

So for example, we might provide accommodation for NHS workers or students, or we might work with, at the moment we're working with Oxford City Council to provide much needed homes in the heart of Oxford City center. That's how we will use the data, the demographic data and the data that the government councils and partners have, to look at where homes are most needed and prioritize those areas.

It also might be where we can access funding, because an area has being identified as a priority area and therefore fundings available. When it comes to the market, we're like every other private developer and we use market data to understand the growth areas.

Now with the COVID pandemic, interesting things have happened to where people want to live. People are deciding where they might want to live and maybe not in the traditional commuter areas anymore, and that commuter space is being pushed out further away from the city centers. So, we'd look at that data, decide where to build our market sale homes, because our market sale homes, that part of what we do is about making profit so that we can reinvest that profit into affordable supply.

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BH: And have some of the data providers changed during COVID, because the market's changed so much like you just described?

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ST: I'd say that the actual data we use for deciding where to build homes is quite traditional, because the way people buy and invest in homes hasn't changed because of the pandemic or recently. But where data has changed is more in maintaining those homes into the future. So, smart homes, building in technology into homes as we construct them, smart heating systems. That's where data is really revolutionizing our sector and how we operate.

And that's really beneficial because the cost of maintaining homes is going up. It's going up for some short-term reasons, such as Brexit and COVID, and it's going up for some longer term reasons, due to taxes on carbon and materials being in short supply. So, any data that can help us be more efficient at maintaining our homes have less visits that interrupt our customers who live in those homes if they're renting, and is really beneficial, and that's what we're seeing change in our sector.

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BH: So, you're installing some smart home appliances, whether that's for plumbing, electricity, et cetera?

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ST: Yeah. So, what we're doing with every new development is we're looking at what we can install to manage the home and the maintenance at home in the long-term future, with as little interference in the home as possible to the customer. There's some really interesting technology coming out around monitoring different aspects of the home, different components so that we can predict failure before it happens.

Now, everyone's had a broken boiler and we all know how inconvenient that is, particularly in the winter months if it's cold. So your boiler breaks, you then have to

report it. You then have to make an appointment. Then someone comes, then someone looks at the boiler, and they realize they don't have the part and they have to go and get the part and they come up. And two weeks later, you might have that boiler repaired. But if there is a technology that can send data to say, "This boiler's about to fail, and this is how it's going to fail," we can get the part, order the part in or order the new boiler, and have it ready to replace before the point of failure. And that's better for the customer and it's more efficient way of operating for us. It's less cost.

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BH: Wow. And how do you integrate those smart systems into some of your customer service systems? For example, you might get some phone calls coming in saying, "This element is broken," or you might have some of the automated reports coming in saying, "Well, we're about to find that this is about to break."

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ST: So, this is new technology that isn't tried and tested. So, this is very much about piloting stages. So, this is where we're building homes right now and incorporating and testing out these technologies. They obviously have to have a backup in case the pilot proves that they're not right for us and our customers. And sometimes when we do pilots, piloting new technology, it might be too complex. There's some heating systems, and they're just too complex for our customers to have the energy to work it all out and fathom it all out in their busy working lives and busy daily lives.

So, some things can be really whizzy technology, but they've got to work for us human beings, and in our day in day out, we need to be able to press button and know that it works and not have some complicated technology in our homes. So, pilots allow us to work out what works and what doesn't work, and put in place technology which makes life easier for people rather than more complicated.

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BH: So far, we've talked a lot more about the quantitative data, but do you also use some qualitative data? I imagine so with customer service experience.

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ST: Absolutely. I mean, there's a couple of things. I mean, customer engagement's really important to us at Catalyst. We try and work with our customers as much as possible. Obviously COVID has meant that's been much more in line than we'd like. We'd like to have a whole mixture of ways of working with our customers, but we try to co-create and co-produce with our customers and problem solve together the where we can.

I think what's interesting as well about technology and the development of homes is human behavior and the psychology of behavior. So, we all know that you can have a nice square of very beautiful grass, but if people need to cross it, it's the quickest way from A to B you'll get a muddy line right through the grass, however beautiful it is and however the architect might have designed beautiful parts around it.

And customer engagement, people will tell you things, but it's also important to observe how people use things and how they use their homes and how they use their outdoor spaces, because what we do and what we say we do are not always the same things. And if you're really going to create that really good experience, that proactive understanding and observation of behaviors is really important factor as well.

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BH: That's definitely true. I've been involved in, in a few projects at Endava where one of the first discovery activities we've done is to listen in on a contact center. It really opens your eyes to the sharp end of what customers really want, rather than it being filtered through in reports and desensitized sometimes into those reports.

So, how at the moment are using some data to impact customer engagement? Can you talk to us about any projects that are ongoing at the moment?

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ST: Well, I think there's two things. So bigger picture, and then a specific example. So, the bigger picture is how we use data to forecast our costs over a longer term period. Because construction and building homes is a long-term activity, we have a five year plan, a 10 year plan, a 30 year plan, as you can imagine.

Now, we need to build into that the cost of investing in our existing homes so that we don't just invest in new supply, that we also maintain the quality of the homes for our existing customers. And in order to do that, what the data tells us is the data tells us the likelihood of when component in a home is likely to fail. And then because we have 37,000 homes, that's a lot of components.

So, what we wouldn't want is everything to fail at once in one specific year, for example. So, what the data allows us to do is draw out a plan for our existing homes of when we are going to replace various components, and spread the cost of that over the longer term plan. And that allows us to see what money we then have to invest in our new homes. So data's really important part of that financial planning and understanding the homes and the performance of those homes, and that data will also allow us when we put our decarbonization program is in place, to understand that as well.

So if that's a bigger picture, let's think of a specific example, and something that's really exciting right now that's new technology that we're using is a boiler in... It's called a cradle, or cassette. And basically, the technical part of the boiler is in the cradle, and then the more mechanical part gets slotted in. So, what we are able to do is we are able to, when we need to change the boiler, it just slots the basic part out of the more sophisticated part. And that will also allow us to put in hydrogen boilers should that be a possibility in the future.

Now, we know it's not a possibility now, but should it be in the future, we'll be able to swap out the old-style gas and energy for hydrogen. And that's really exciting technology that prepares us for the future when there's so many unknowns that we can't invest in the hydrogen boilers right now.

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BH: Wow. I was thinking, as soon as you said that you have a 30 year strategy, I was thinking how many of our listeners are going to be sitting here or riding their exercise bike going for a walk or whatever you're doing at the moment, thinking, "30 year strategy? Wow. That must be something."

On the subjects of the cradle, how do you balance having cheaper commodity items today, using today's technology, with, presumably, some of these newer technologies cost significantly more? How do you balance between being ready for the next 30 years or the introduction of hydrogen compared to, "Yeah, but I can buy something for fraction of the price using today's technology."?

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ST: We do have to weigh up many things. The cost to us, but also the duration. So a gas boiler currently will last 10 to 12 years. So we might plan to say, "Actually we will put a gas boiler in now. And then in 12 years, we will replace it with new technology

that hasn't evolved yet, but we know it will do in the next 10 to 12 years." So, that's an option available to us.

We putting in pump source heaters now. So heat pump source, air pump source heaters now. They're going into our homes now. They're more expensive, but they're factored into the build cost of those homes. And actually in the reality, we're doing obviously a portfolio of different initiatives to balance the cost, make sure there's a long term plan for sustainability net carbon zero, and we're contributing to that in a very planned and methodical way.

What's really important to us in our sector is whatever solutions we put in place, they must be affordable for our customers. Most of our customers are in affordable rented homes or affordable home ownership. And that means that they have lower income levels than in other parts of the country. And there's no point in us putting in a solution which fits the decarbonization agenda, which our customers then cannot afford to use. So for us, it has to achieve net carbon zero, but it has to do it in an affordable way for our customers.

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BH: And that's the balance with any kind of sustainability, isn't it? It's the price versus the carbon emission. Well, Sarah, thank you so much for joining us on Tech Reimagined, and the chance to take a deep dive into what data can do for the social housing and construction industry.

To our listeners, I hope you enjoyed today's episode of Tech Reimagined, and thanks very much for joining. Please show us some love and hit that like and subscribe button if you like the episode today. If you've got any further questions or you'd like to reach out, then please drop us the line at [Endava.com](https://www.endava.com), or message us on any of the social media platforms. Until next time.