

## Ray Levitt of Blackhorn Ventures LP

**Speaker1:** [00:00:04] This is the Investor Connect podcast program. I'm Hall Martin. I'm the host of the show in which we interview angel investors, venture capital, family offices, private equity, many other investors for early stage and growth companies. I hope you enjoy this episode. The. Need help in finding investors for your startup fund or Angel Group, 10 Capital provides funding as a service, helping you find it credit investors contacting capital gain access to investors for angel and venture capital funds, family office rounds and syndication races. To learn more, go to TEN Capital Group. Well, hello, this is Hall Martin with the Vestry Connect. Today we're here with Ray Levitt, operating partner at Blackhorn Ventures LP. Blackhorn Ventures is an early stage venture capital firm that invests in companies using breakthroughs in engineering and science, coupled with the infrastructure of the information revolution to redefine resource productivity. They have three funds in early stage seed fund and Early Growth Fund that invests in eight rounds and the Black Horn Select Fund that makes larger investments in growth capital for its most successful portfolio companies. Ray, thank you for joining us.

**Speaker2:** [00:01:13] It's a pleasure hall. Happy to be here.

**Speaker1:** [00:01:15] Great. So tell us more about your background before you got into investing in early stage companies.

**Speaker2:** [00:01:22] So my background was growing up in, as it turns out, South Africa, where I was born in Johannesburg and lived there until college and afterwards. And my dad was a structural engineer who was also part of a rebar contractor. And so I was on construction sites almost from the time I could walk with my dad. My mother would have a heart attack if she knew some of the places my dad took me. But anyway, in high school, I worked at the trades because that was the most lucrative employment I could get. I was a carpenter. One summer, I was an worker, a rod buster, one summer tying rebar with wire and and nicking my fingers and getting sunburned. And then in college, I decided to study civil engineering, which was my dad's background, and I was excited to do that. So I got a civil engineering degree during the summer as I worked as an assistant, project engineer, assistant project manager. Seeing you know, that side of the business and my early career was with a marine construction company in Cape Town that was a Danish company operating in South Africa, staffed by PhDs who couldn't manage

their way out of a paperback. We lost tenders we should have easily won because they couldn't even manage a tender, much less a project. And I thought there's got to be a better way to do this. So I decided to study construction management, and I had also decided at that point to emigrate from South Africa during the apartheid years. And so I moved to the U.S., I enrolled in a master's in construction management at Stanford. And after that worked in Canada for a short time with VK Mason, which is a Kiewit subsidiary in Toronto, and because of Nixon's wage and price control program that led to shortages of everything, including steel all the way up into Canada, I lost that job because that project shut down and ended up going back to school, which was a big mistake in terms of my career plan because I made myself unemployable in construction by getting a Ph.D.

**Speaker2:** [00:03:19] and anyone I showed the resume to would say, You have a Ph.D., Professor Levitt, do you want to be a professor, right? Not a construction worker. Why would you get a PhD? We can't use one. So basically, it was an accidental faculty member for most of my career, first five years on the faculty at MIT and a construction management program, and then subsequently almost four decades at Stanford. In their construction management program, which launched building information models through a research center called Sci-Fi, got a lot of exposure to companies taking early advantage of digital building technology and actually got involved in three separate startups during the time I was at Stanford. First one was not very successful, which in Silicon Valley means you're not a loser, you're an experienced startup founder because people tend to learn from their mistakes more than their successes. The second two are slightly better, and the third one was actually quite a bit better, so I became an angel investor. And then when I got the opportunity to join Black Horn Seed Fund when they were launching it in 2017, I decided I'd had enough being an accidental professor and retired from Stanford and joined Black Horn Ventures as one of their partners focusing in the construction sector. The other two sectors Black Horn invests in our transportation and energy, and we sometimes see overlaps and increasingly overlaps in those sectors, but I focus strictly on the construction tech side.

**Speaker1:** [00:04:49] Great. So what excites you right now?

**Speaker2:** [00:04:52] What excites me are really two areas that I think go beyond the early stages of digitization in any industry, and you know, what we see in any industry is the first stage

of digitization is what my old Professor Oglesby used to call paving the cow path. That is, you take a paper based process and you digitize it exactly as it existed on paper and you get some savings in time, often a lot of savings in time because you're not mailing documents back and forth, you're sharing them in near real time. But you don't really get huge value out of that beyond some modest efficiencies on the administrative side. You know, the second stage is when people develop multiple point solutions like that to digitize workflows and begin to share data between them to avoid dual data entry and error introduction through data entry. And then typically, the third stage is where you start to see multiple point solutions being integrated in ways that you can create a unified data pool and begin to develop some really high level insights by applying AI to a combination of image data, text data, structured and unstructured data and then numerical data. And so with things like natural language processing, AI and AI for machine learning and also AI for image recognition, you can begin to get some very high level insights. And that's what excites me is the convergence of basically democratized AI, cloud storage and application running in very efficient cloud service providers.

**Speaker2:** [00:06:27] And then they can be delivered as digital subscriptions, which allow construction companies to ramp their data, use up and down and not hire a lot of priests in white coats, you know, behind glass walls with mainframe computers. And so those those combinations have created this absolute surge in construction startups, which is the sector I work in. But it's also true in both transportation and in energy, in different sectors or subsectors of those industries. So that excites me. And the other thing that excites me is there's a very clear and emerging and growing shortage of skilled labor in this industry. Young workers are much more interested in driving a desk than in driving a caterpillar tractor or tying rebar with, you know, with a pliers with wire in the sun, like I did in high school. And so the average age of skilled craft workers is around 50 right now and going higher as these older workers retire and there are very few younger workers coming into the industry and immigration policies have made that worse. We had a lot of Hispanic workers at one time, highly skilled people, but having trouble with immigration now. And so modularized and prefabrication done in an intelligent way is very exciting to me, and it's got to be done in what I would call the Antica tearaway, which is not a highly vertically integrated, hugely capital intensive way of doing it, because this is a highly cyclical industry that I've spent my whole life in.

**Speaker2:** [00:07:57] You have big upturns and huge downturns. We haven't seen a downturn in 10 years because of this long period of growth, but you know, COVID created one and that drove Katara out of business, among other things. Just like it drove the the operation breakthrough companies that Mitt Romney's father started in nineteen sixty nine when he was made head of HUD by Nixon. He came out of American motors and thought he could build houses like cars, and he got big companies to form capital intensive manufacturing facilities for modular bathrooms, modular kitchens, complete modular volumetric units like shoebox modules for housing. And all of them failed during Jimmy Carter's stagnation when you had high interest rates and no growth in GDP. And so to be effective at prefabrication to deal with this labor shortage, to automate things, it's got to be done in a highly capital efficient way. And I'm very excited about two ways of doing that. One is what I'd call the Apple Computer Way, which is you design a modular product, you outsource all of the manufacturing and you orchestrate that supply chain. And we have a company in the UK we've invested in called Modulus, which is doing exactly that for low income housing. They don't make anything. They have designed a very clever, modular, flexible architectural solution. They outsource manufacturing. They outsource the pre assembly at a staging area close to the job site, and they outsource the installation to contractors, and they orchestrate that supply chain across the UK and they're looking at expanding internationally.

**Speaker2:** [00:09:32] The other way of doing it is what I call fractal prefabrication, you take a tiny slice of one trade and you figure out which part of the trade has got the high skilled workers that are needed to do it, but that you can also very efficiently do robotically with a minimum capital investment. You're not creating a huge, vertically integrated company with a million or two. You can build a factory that can generate tens or 20 million of revenue per year. And we see a couple of companies like that that we've chosen to invest in a rigorous Or RUC in San Diego, doing modular frames for developers, for wood frame housing, but using proprietary software to take any developers 3D cad model and turn it into manufacturing instructions for the robots to do that very, very efficiently and and truck with vertical packing that can truck a whole house a few hundred miles economically and still make it pay. And then the other company we've invested in is a company that's doing part of the rebar fabrication process, just the assembly of the rebar cages, not the ownership of the steel or inventory of the steel, the cutting and bending which is done by basically every rebar company already, but the assembly of the cages, which has been typically done on site. And by automating that and again, a very

capital efficient factory, you can you can pay for that factory in months or a year or two and then generate very high gross margins.

**Speaker2:** [00:11:03] So I mean, those are two things that excite me in the the modular prefabrication. And then they're a payment that were an issue I've been looking at for most of my career is the fact that we make subcontractors finance construction projects. But, you know, 90 days at a time till they get paid 90 is sort of the end. Typically, most people do get paid that fast, but 74 is the average in a survey that was recently done. The average number of days of subcontractor weights from the time it submits its invoice, and it's already both the materials and it's paid the labor for 74 days weekly payrolls before it gets paid and its cost of financing is much higher than the cost of capital for the owner or the developer of the project. So it's nuts to make them do that. And the solutions that have emerged so far have made incremental improvements, but we're looking at like radical improvements paying subcontractors in just a few days from the time they submit their invoices using digital twin images in lieu of onsite inspections. So a company called Kofi out of Utah is doing that and we've made an investment and we'll probably make further investments in that because we think that's a game changer. So those are two things in the sector I work in that really excite me.

**Speaker1:** [00:12:18] Great. Well, you see a lot of investors and a lot of startups out there. What's your advice for people investing in startups? What do you tell them to do before they write that check?

**Speaker2:** [00:12:28] For people investing in startups, especially a lot of new. Horizontal investors that have previously doing SAS Enterprise Solutions are seeing construction, you know, the sector I work in as an attractive space and other verticals. Make sure that the start up solution is really targeted at solving what I call a hair on fire problem for a targeted set of customers, and that there are enough of those customers to make a big enough market that your solution is the Start-Up solution is differentiated and defensible. It's delivering a high enough ROI to the target customers that there's a willingness to pay for it. I mean, these are standard VC kind of things, but what many investors I think overlook is the cost of sales in a fragmented market. And some of these verticals, like construction, is highly fragmented compared to what it was automobiles or tires or windows or other or financial services. And so the cost of sales can be significant when you sell into such a fragmented industry with lots of

small players. And, you know, it's right team, right time, all the things other investors do, but when you're coming into a vertical sector like construction or transportation or energy, the sectors we invest in that are late to digitize, it's probably a good idea to get a partner with real domain expertise in that in that sector and use them as a partner investor.

**Speaker1:** [00:13:52] Great. And then on the other side of that table, what what's your advice for startups? What do you tell them to do before they go out to raise that round of capital?

**Speaker2:** [00:13:59] So I asked them to address these same things I tell investors to look for. In other words, make sure you've got a solution that really addresses a serious pain point for a targeted group of customers. That's a big enough group to create a market that, for an investor, will repay their fund. I think startups don't always understand how investors work. A company like Blackthorn, when we make an investment in a company, we have to believe that if it's successful, it's going to generate a big enough return for us to basically pay back all of our investors the entire fund value. And so we're looking for a big enough stake in what will be a big enough company to do that if they're as successful as they could possibly be. And you know, there are several other things we tell founders why not call Lyons Theorem? I have a partner, Mike Lyons, not a partner at Blackthorn, but a partner in teaching an entrepreneurship course at Stanford. And he has this wonderful theorem, which says that a startup is a series of experiments to find product market fit. And I think a lot of start has come in with an ideological idea about what their brilliant solution is, that the world has to beat a path to its field of dreams, build it and they will come, and they don't leave themselves open to feedback from early customers about what really is the pain point and who really is the target customer.

**Speaker2:** [00:15:17] And so the theorem says don't be ideological and actually structure your initial sales targets and your initial pilots to do these experiments to find where the real product market fit is. I tell founders that don't try to hire professional salespeople until you've developed that strong product market fit and also have found a cost effective and cost efficient way an efficient, effective and efficient way to get to the market. Because when you're selling solutions, the cost of sales can sometimes be more than you can recover in the gross margin. So you have to figure out both if there's a good product market fit and a willingness to pay for it and you have a way of selling it that you can actually make money on. And I think a lot of founders neglect the cost of sales. I know I did in my first startup and I learned a very good

lesson from that. And then the other thing is, don't try to attack an entire market, pick a subsector of a market for which the pain point you think you're addressing is likely to be highest and where there is an ability and a willingness to pay because you're generating higher ROI by solving that pain point and then stay in that sector until you get a significant toehold in that sector.

**Speaker2:** [00:16:28] You know, you've got 10 or 15 percent of market share in that sector before you try expanding to a broader market and you can define the market by in my industry, for example, are you going to general contractors? Are you going to specialty trade contractors or you're selling to clients of projects or owners? Or are you selling to insurers who provide insurance for that industry? Who is your best beachhead market to conquer before you go out to a broader market with your product? And then, you know, there might be a location where it's more effective, where, for example, there are high labor costs or there's a huge demand for housing or something else. And so just be very focused in your early sales run, these experiments figure out the product market fit, get a beachhead, get a get a toehold in a beachhead market and then then expand.

**Speaker1:** [00:17:17] Right, so you see a lot of startups and investors, what's the biggest challenge you see startups face today?

**Speaker2:** [00:17:23] I think the biggest one of the biggest challenge I see is they face what I call death by pilots, that is, they agree to do either free pilots or even modestly paid pilots, but without having a roadmap and buy in for operations people about what is the what is the sort of acceptable benchmark for performance of this of the of the pilot and if it's reached in the pilot rollout, what is the plan for rolling it out more broadly in the company? And if you don't have that operations buy in and you're just dealing with the innovation group in a company because a lot of companies have created a little innovation groups of techies who don't really know a lot about operations or have necessarily buy-in from their operations, people don't do pilots on this. You get that buy in. And then when you do pilots and you meet the benchmarks follow up to to make them honor their commitment to to roll it out.

**Speaker1:** [00:18:19] And then on the other side of that table, what's the challenge investors face in today's market?

**Speaker2:** [00:18:25] I think one of the biggest challenges that investors are facing today is that a lot of non-traditional venture investors have come into this space. A lot of capital has come into this space and the reason for that is the very low interest rates that have made it impossible for pensions or sovereign funds or other pools of capital to get reasonable returns. You know, pension funds need about eight percent right now in fixed income securities, you can't even get one or two percent. And so they need to take more risk. And so many of them are either putting money into venture funds or creating new venture funds. And once all that capital is floating around, a lot of other VCs come in and start new funds to take this capital and try to apply it. And the growth of all these new nontraditional, I'll call them non-traditional investors. They're not the traditional institutional investors as well as strategic investors. A lot of big companies have come to believe that they'll be disrupted if they don't figure out new lines of business. And so they're creating corporate venture funds. And the challenge for investors like us who are traditional venture investors is that a lot of these people will put a much higher valuation on a startup than what we could justify because they can imagine making money off the startups invention in a way that benefits their business, not necessarily the startups business. And so the goals are not aligned between strategic or corporate venture groups and startups the same way and institutional investors are. And so the challenge again for us is to how we most effectively partner with those people because they can be very helpful. They can do pilots in their companies. They can pay non-recurring engineering in exchange for license discounts rather than get them getting on the balance sheets of these companies, which makes them difficult to sell. You know, in a really open M&A process, if a particular strategic investor is too close to the company, it scares off others. And so we have to figure out how to work with these people most effectively. That's the biggest challenge we're facing right now.

**Speaker1:** [00:20:28] Great. We see a lot of different applications and sectors in the construction tech sector. You had to take one or two that you think are really good opportunities to pursue today. What would you call out?

**Speaker2:** [00:20:38] I think I've mentioned to earlier, you know, when I said what we're excited about and that is ultrafast payment of of all the workers who contribute value to construction so that they're not financing the project for you. And then secondly, just very intelligent kind of prefabrication. And then the third one would be these sort of stage three digitization companies

that are creating the kind of value for the C level executives that are creating enterprise contracts, you know, within a very short sales cycle instead of working your way up the food chain from selling it to one forward looking project manager, then to two or three of her or his friends and then getting a regional enterprise license and then a corporate wide enterprise license, that's about a two year process. If you have a traditional point solution, which is the way it happens with most startups and most companies, but creating a higher value by again pooling the data from all these point solutions and helping us CFO figure out what's the likely cost of completion of this project, you know, one quarter of the way into it so they can recognize revenue appropriately, that that kind of thing that one of our companies, brick is doing brick. And so, you know, we're looking at those kinds of opportunities as being very exciting.

**Speaker1:** [00:21:55] Great. Well, let's talk about the state of investing in construction tech. How do you see the industry evolving from here?

**Speaker2:** [00:22:02] You know, I see two changes happening in addition to this, just massive amounts of capital flowing into venture right now because of specs and because of the frothy stock market. One of them is I see ESG and climate focused investors playing a bigger role. Construction industry, the transportation industry, the energy production industry are all responsible for the majority of greenhouse gases in the world right now. Something around 70 percent comes out of those three industries and the world is changing. There will be a price on carbon, if not now, later. There already is in Europe. There will be in other countries that eventually the U.S. will get around to something like what George Shultz wanted to do, which was a. A carbon revenue neutral carbon tax that would just pay back into into other tax reductions or a cap and trade which California has in other states like Oregon, are beginning to adopt. So climate focused investors and startups that deal with the material science of some of the nasty materials we use in all of these industries steel in most manufacturing, concrete and construction, which is responsible by itself for about eight percent of the world's greenhouse gases and so on. And then just making making the whole supply chain more more sustainable. So we've invested in a company that is doing vertical Arab farming in an extremely cost competitive way with robotic movement of growth modules and things like this a company called one point one, which is growing very fast doing. And what that does is it eliminates all the wastage of food being hauled to market miles because you can take a city lot and grow 52 acres

worth of crops every 20 days in it. And then it's also reducing the transportation of hauling that to market, plus the wastage.

**Speaker1:** [00:23:59] Great. Well, in the last few minutes that we have here, what else should we cover that we haven't?

**Speaker2:** [00:24:04] I think you've asked a lot of good questions, I think there's some post-COVID opportunities that will exist for at least the sectors we're interested in, especially construction and real estate. It's pretty obvious that things are never going to go back to normal. The experience companies have had with remote working their technologies like Zoom, which we're using now for managing remote communications in a relatively effective way. I mean, it's not as nice as being face to face, but it's a whole lot better than emails. And other things are going to really require reconfiguration and probably repurposing of a bunch of existing office space and designing new office space in a new way. Creating new kinds of. Air cleaning, air filters, we saw a company we didn't invest in it, but we saw a company making electrostatic air filters that caused virus particles to clump together, so they're big enough to be trapped by a HEPA filter, which they're not right now on their own. So things that create clean air or that monitor air and buildings, things that create very efficient ways to repurpose office space and parking space, you know, with Uber and Lyft, there's a lot of redundant parking space and office buildings now. People don't commute to work. They they ride these ride sharing apps. And we've seen companies create logistics same day logistics hubs inside old parking garages. It actually works pretty well for that. And we're seeing people repurpose some kinds of office spaces that have the right base size and and floor configurations into residential property. I think some of those kinds of things will happen in the future in my sector.

**Speaker1:** [00:25:48] Right. So how best for listeners to get back in touch with you?

**Speaker2:** [00:25:52] So either people interested in participating in our next fund, which we are about to raise because we've invested fully, our seed fund or around fund is almost fully invested, should contact me and start that operate in the spaces we work in that address markets in energy, transportation or construction to contact me. Ray at Blackthorn VK.com. It's my email address. I have a link to insight, but I don't read that regularly. So the Blackthorn email address is the best way to reach me.

**Speaker1:** [00:26:24] Well, include those details in the show notes. Want to thank you for joining us today and hope to have you back for a follow up soon?

**Speaker2:** [00:26:29] Pleasure. Thank you very much.

**Speaker3:** [00:26:34] Investor Connect helps investors interested in startup funding in this podcast series, experienced investors share their experience and advice. You can learn more at Investor Canaccord. Paul T. Martin is the director of Investor Connect, which is a 501c3 nonprofit dedicated to the education of investors for early stage funding. All opinions expressed by hall and podcast guests are solely their own opinions and do not reflect the opinion of Investor Connect. This podcast is for informational purposes only and should not be relied upon as a basis for investment decisions.