

#SBChat: Overcoming the Challenges of Running a Hardware Start-up in Ghana with Isaac Sesi.

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James Erskine

@SBIncubatorGH : *What has been your top three challenges starting a hardware company in Africa?*

@IsaacSesi : Scaling to mass manufacturing: It is very difficult to scale to mass manufacturing in Africa. Setting up manufacturing processes, getting the right equipment, finding enclosure for your products, etc are some of the challenges you will face when trying to scale your manufacturing. Funding: Unlike software where all you need to develop an MVP is a laptop and #internet, .developing hardware is expensive. You need money to develop a prototype. You need equipment to refine your prototype. All of this cost money. U need a larger skillset to successfully develop a hardware prototype. You need a maker (the engineer who designs and prototypes the product.) then you need the software guy who will develop supporting mobile applications. These come cheap. So you need cash. Technical Knowhow: Developing hardware requires a lot of specialised skills. Unfortunately, it is difficult to find people with that skillset in Africa. Either they are already working somewhere or they are so expensive that you cannot afford them initially if you don't have cash.

@SBIncubatorGH : *How did you manage the risk during the development stage?*

@IsaacSesi : We had a lot of support. We had support from our partners at USAID to get us set up nicely. We had access to 3 years of research that had been done on our product to refer to. We also had access to experts in industry, research, who guided us to get started with our production facility. And we had a contract already waiting for us before we finished developing so i guess i would say, we were blessed.

@SBIncubatorGH: *What are the top four factors to consider when starting a hardware company?*

@IsaacSesi :

The problem/missed opportunity : Your hardware product should solve a unique, clearly identified problem in a way which other solutions are failing to solve.

The Market Potential: You should be able to clearly identify who is going to use your hardware and that there is a large enough market to justify bringing your product to market. People should also be willing to pay for it.

Technical complexity: The more complex your product is, the harder it will be to design, the longer it will take to get to market, the more expensive it will be to develop, the more cash you will need and the more challenges you will face. so you have to look at that.

The competition: If your hardware product is so common that you have to compete with the similar, probably, better-designed products from China, then already you are setting yourself up for failure.because china has more resources and can afford to produce at a lower cost than you.

@SBIncubatorGH : In what market segments do you see significant growth in hardware consumption ?

@IsaacSesi : There's the guy who developed the glove that translates sign language into audio. Then there is energy and education. DEXT is doing something awesome with the science set. If you're looking for promising hardware innovations by Africans, you can check out @ASMEishow

I see significant growth of hardware from Africa in the food/AgriTech space. A lot of guys such as @ujuzikilimo are already doing some pretty good stuff in that field. Then there's health too. People are developing affordable assistive technologies and it's exciting.

@SBIncubatorGH : What limitations do you see as barriers in scaling your hardware startup in the near future?

@IsaacSesi : I would rather say I see many of the present barriers gradually being overcome. I see; more access to funding by African startups in the coming years, more africans building skills in hardware, outsourcing of manufacturing becoming easier and more policies for hardware entrepreneurs.

@SBIncubatorGH : Starting a hardware business is capital intensive. What should potential hardware startups look out for in their very early stages of fundraising?

@IsaacSesi : Well, even though a lot of money has been raised by African startups in recent years, raising money is still difficult. First, you really have to have a good idea how much it will cost you to develop your product and get it to the market.

You can bootstrap to grants and competitions to help you develop a proof of concept that you can test. After, you can develop several iterations and do very low volume production all to test the product and business model and try getting some traction, then you can go look for investors.

Remember, you should identify a clear problem or missed opportunity that hasn't been taken advantage of yet and at least, show that there exists a big enough market for it and you should be able to clearly articulate your business model to anyone.

@SBIncubatorGH : What three top skills are in demand in the hardware manufacturing industry ?

@IsaacSesi: CAD/Industrial design skills(the guy who designs casing/enclosures and packaging with mad solid works skills). And of course, for every business, you need the guy with the mad sales/marketing skills who goes to sell the product.

Electronics design and embedded systems skills(the guys who design and build the actual hardware), software development skills(the guys who write the software/firmware that communicates with or works on the hardware)

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@IsaacSesi: Provide funding opportunities, get experts to provide technical support to these entrepreneurs, a campaign to support and create appeal for locally manufactured hardware products, boosting the engineering capacities of institutions to better equip students with hardware skills, providing scholarships to students who want to major in hardware, low/zero import duty on parts imported for production to reduce the cost of production, these are all ways that will help.