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Design-driven Entrepreneurship

An interview with four Irish designer-founders

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Four Irish Designers are blazing a trail in business with a design approach as their competitive advantage. In this article, Martin Ryan and Trevor Vaughn hear from the co-founders of Izzy Wheels, Turbo-spoke and Connect the Dots as they share the story of their early success and the underlying insights driving breakthrough in their markets. With start-up failure rates of up to 90%, it is clear that current approaches to growing new ventures is not delivering sufficient returns. This article introduces a potentially important missing element - Design. While passion, rigour and talent are essential traits in entrepreneurs, the most important success factor is the identification of a real problem and the creativity to navigate it towards success. This is the foundation of a design approach.

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Introduction

Entrepreneurship is a curious phenomenon. One in six Irish people have a desire or expectation of becoming an entrepreneur in the next three years (Fitzsimons & O'Gorman, 2017). Perhaps it's freedom, independence or just an expectation of fame and fortune, but entrepreneurship is certainly not an easy, risk free option. In fact, it was Irish-French economist, Richard Cantillon who first established the entrepreneur as a "risk-taker". Entrepreneurial efforts have a high chance of failure, and depending on how you define failure, its probability sits somewhere between 30 and 95 percent. According to Harvard Business School Professor, Shikhar Ghosh in (Nobel, 2011); *"If failure means liquidating all assets, with investors losing most or all the money they put into the company, then the failure rate for start-ups is 30 to 40 percent... If failure refers to failing to see the projected return on investment, then the failure rate is 70 to 80 percent. And if failure is defined as declaring a projection and then falling short of meeting it, then the failure rate is a whopping 90 to 95 percent."*

From an Irish perspective, drawing on figures from the Irish Central Statistics Office (CSP), one out of every three businesses did not survive past five years between 2010 and

2015 (www.cso.ie, 2018). There are many reasons for these failures, but according to a well cited survey conducted by CB Insights (2014) based on the post-mortem of 101 failed start-ups, a series of important statistics emerged regarding cause of failure. The number one reported reason (42% of respondents) was 'no market need'. Coming second was running out of cash (29%) and not having the right team (23%). Market need is fundamental to success of any commercial endeavour, and such a high percentage is concerning.

In recent years there has been a growing number of global designer-founder success stories, the likes of Airbnb, Intercom, Pinterest and Lynda.com. Perhaps design has something to offer? The authors here both come from design practitioner, entrepreneurial and design teaching backgrounds, where in both cases, real need identification is seen as an imperative, but also achievable through systematic process.

This article forms part of the authors ongoing research investigating design-led entrepreneurship. As part of this, they have interviewed numerous company founders from various sectors. This article offers an early introduction to three designer-founded companies; *Izzy Wheels*, *Connect*

the Dots and *Turbospoke* - three successful Irish companies showing remarkable success in their respective markets.

IZZY WHEELS are makers of stylish wheel covers for wheelchairs. They have achieved market success by reframing the meaning of a wheelchair from a medical mobility device into a fashion accessory and platform for personal expression. In just 2 years Izzy Wheels has gained a large customer base in over 30 countries with 75 percent of their sales coming from the USA. Izzy Wheels have already featured in some of the world's most famous publications including Vogue, Cosmopolitan, TechCrunch and Adobe Create.

TURBOSPOKE are makers of bicycle accessories and upgrades. In kickstarting their business, they made a breakthrough that reframed bicycles from transporting the body, to transporting the mind of a child towards more imaginative play. On the back of this they now have distribution in over 25 countries and rank as the #1 Best Seller in category on Amazon, in both the USA and the UK.

CONNECT THE DOTS are event architects. They are transforming event planning and design through an innovative new model that reframes the conventional event format from an inside-out model, to an outside-in model where participants are recruited to co-create the event. In less than 2 years they have applied the user-first, data-driven process to over 45 events and have secured 80% returning clients following a first use.

All three businesses share three important attributes - they have been in operation for 2+ years, they have been able to demonstrate meaningful commercial impact and they have at least one co-founder with formal design training. We asked each founder three questions to spotlight the key insights driving their success.

- 1 Describe your offering and its innovative features
- 2 What were the breakthrough insights and steps taken that shaped the early development of your business?
- 3 Describe the market impact.

Below are the four interviews in full.

Speaking with Izzy Wheels

Izzy Wheels builds on profound insight

of wheelchair users. Through intelligent empathy, designer founder Ailbhe has identified a gap in the market for wheelchair users who want to express their personality ahead of their disability. Izzy Wheels brought new meaning to wheelchairs and have carved an exciting new market for fashion accessories. This project draws on insight and observation around personal experience, before hardening a clear commercial direction and vision.

Describe your offering and its innovative features?

Ailbhe: My younger sister, Izzy, was born with spina bifida and is paralysed from her waist down. Growing up she found it very frustrating and upsetting that there was nothing available for her to personalise her wheelchair. Her chair was the first thing that people noticed about her but it wasn't a reaction of her bright and bubbly personality. Izzy and I have always been best friends and when we were little we always loved dressing up her chair for special occasions. I came up with the idea for Izzy Wheels in 2016 when I was in my final year in The National College of Art and Design. I designed a range of stylish wheel covers for wheelchairs so that users could express their individuality. We came up with the tagline 'If you can't stand up, stand out'.

Izzy Wheels transform a medical device into a piece of fashion and self-expression. The waterproof wheel covers come in 3 sizes and fit onto any manual wheelchair. The wheel covers are very easy to put on and swap so you can have different wheels for your different outfits.

What were the breakthrough insights and steps taken that shaped the early development of your business?

Ailbhe: Insight 1: Wheelchairs look the same as they did 100 years ago. They are seen as a medical device and little or no thought is put into their aesthetic. For a wheelchair user their chair is so much more than a medical device, it offers them their freedom and independence. Users should be able to celebrate their chairs. The first compelling insight is simple, disability fashion is a massively underserved area of design.

Insight 2: When my sister was very young she loved personalising her wheelchair for special occasions. For Christmas we would fill



her wheels with lights and decorations and in the summer we would attach flowers to the spokes on her wheels. The first thing that everyone would say to her was 'I love your wheels!'. This gave her a huge confidence boost and made her very proud of her chair. We arrived at the insight - having decorated wheels is an excellent conversation starter.

Insight 3: A chair costs around €10,000 and can take about 2 years to arrive because all of the parts of the wheelchair are made in different places. When the chair finally arrives there is nearly always something wrong with it. Wheelchairs are very expensive to buy.

Insight 4: There are 640,000 users in Ireland and the UK and 14.5 million across Europe and the US. This is a total addressable market of 3-5 billion dollars. There are 67 million wheelchair users in the world.

Insight 5: What's been really exciting was discovering other communities of people online who share this same positive relationship with their mobility equipment. We are contacted by lots of people who felt inspired by us to decorate their walking frames, canes and prosthetic limbs with art. Schools have even started doing art workshops with their students to design wheel art inspired by our work. It's an excellent way to teach children, teenagers and adults about inclusivity. If you spread your positive message others will follow.

Describe the market impact?

Ailbhe: Over the past 12 months Izzy Wheels has collaborated with a host of award winning illustrators and artists including Maser, Supermundane, Steve Simpson, Brosmind, Fuchsia MacAree, Chris Judge and Marylou Faure. This October, Izzy Wheels launched its first fashion collaboration with iconic fashion designer, Orla Kiely.

To date, we have been named on Forbes 30 Under 30 Europe 2018. Our video on INSIDER has been viewed over 15 million times. We have been featured in some of the world's most famous publications including Vogue, Cosmopolitan, TechCrunch and Adobe Create. Last summer we were the first Irish people to be asked to take over Instagram's official account which had a reach of 225 million people. Izzy Wheels has gained a large customer base shipping to over 30 countries

with 75 percent of their sales coming from the USA. In less than two years of trading we have won 8 National awards including the 'Accenture Leaders of Tomorrow Award 2017'. The Izzy Wheels duo were flown to New York last month to meet with the world's top fashion houses and to shoot our new collection.

Speaking with Turbospoke

Turbospoke while on first impression may not be considered as virtuous a business as Izzy Wheels, with closer inspection it represents equally strong empathy and insight for their target audience, young bicycle riders. Tom Maxwell, designer founder, has demonstrated excellent capacity to discover and define an unserved market need, ahead of other commercial powerhouses. Tom and brother Andrew formed Turbospoke together in 2006 and have gone on to create a multimillion-euro business.

Describe your offering and its innovative features?

Tom: Turbospoke is an exhaust pipe and engine noise maker that transforms children's bicycles to look and sound like a real motorbike. The Exhaust System uses polypropylene cards that are super durable, waterproof and generate a fantastic sound, and a realistic looking megaphone exhaust pipe which amplifies the sound generated by the cards. Further to this, the cards are die-cut in different shapes which interact with the spokes in different ways and thus generate different sounds and tones, allowing a kid to adjust and tune the sound of their exhaust system.

We are now on to the second generation of Exhaust System which fits 98% of kids bikes, is simpler to use and creates an even louder sound. You can now even mount twin exhaust pipes to one bike - something our loyal fans have asked for since day 1.

What were the breakthrough insights and steps taken that shaped the early development of your business?

Tom: Insight 1: The concept is an old and simple one that many would recognise, whereby a playing card is strapped to the rear chain-stay of a bicycle and inserted in the rotating rear wheel. When the spokes of the bike wheel strike, the card vibrates and makes a rhythmic sound, similar to that of an engine. The very first breakthrough moment



Turbo Spoke

was the realisation that the product we had created and designed was entirely unique to both the toy and cycle markets across the world. Nothing else existed that made noise on a bicycle and/or emulated the look and feel of a motorcycle exhaust pipe. Don't assume somebody else has done it!

Insight 2: Despite being a toy and bicycle accessory, our experience with buyers from both channels very quickly demonstrated that the toy channel was going to be our best route to market. The cycle market while technically very innovative, is very conservative and a product like Turbospoke which is designed purely for fun and entertainment found a much more receptive audience in the toy channel.

After a bit of desk research we realised that around 80% of children in our target markets already own a bicycle. After the initial bike purchase, parents and gift purchasers rarely visit the bike store again. Toy stores however are visited on a much more regular basis, giving a far higher chance of purchase. Toy stores will reach active buyers and a bigger audience.

Insight 3: Our first large distribution appointment was in the USA when we exhibited Turbospoke to all of their customers at the annual New York Toy Fair. The feedback was phenomenal, but more important was the reaction of the network of international contacts that we were exposed to. From this one event, we expanded Turbospoke into 4 more key markets within 6 months, all from contacts that we were introduced to by our US distributor. Make your own luck and make every contact count.

Describe the market impact?

Tom: Turbospoke is now a well-established

outdoor toy brand with distribution in over 25 countries and its uniqueness and playtime value have seen it attract over 50m views on YouTube. It has been the #1 Best Seller in category on Amazon.com and .co.uk for 4 years in a row and has recently been added to the shelves of Walmart USA, appearing in over 1,500 stores nationwide. It has attained "Evergreen" status meaning it sells year round, year on year and the product line is currently listed in key markets with Smyths Toys, Halfords, Kmart, Big W and Toys'R'Us to name a few. Aside from direct retail sales, it has been selected by some of the world's largest brands with Bicycle Exhaust Systems being co-branded and fitted to Raleigh, Honda and Hot Wheels bicycles directly at factory and sold globally.

Speaking with Connect the Dots

Connect the Dots builds on a deep insight of people attending events. Marisa and Naomi, two designer co-founders, present a quality example of need finding. Until Connect the Dots, the need for a co-creation approach to event planning was unmet and unarticulated by other businesses. As participants in events, both designers recognised an unarticulated need and went on to build a compelling value proposition. This project builds on the founders own first hand personal experience around events and an overarching aspiration to create better event experiences. It remains to be seen how Connect the Dots develop in the future but early indications are extremely positive.

Describe your offering and its innovative features?

Marisa and Naomi: Connect the Dots harnesses the power of data for event design – to ensure events are based on attendee insights, rather than guesswork. We provide event organisers with the tools

to attract attendees, the insights needed to understand them, and the perfect event design to maximise engagement and achieve the desired impact.

Connect the Dots eliminates this guesswork by designing events in a user-driven way - based on attendee insights. Connect the Dots engages a company's target audience, gathers insights from them such as their likes, preferences, ideal outcomes for the event; and then leverages these insights to suggest an event agenda that matches what they're looking for. Using Connect the Dots' pre-event intelligence and actionable insights ensures that each event is a success every time - as relevant, targeted and impactful as possible to each audience. To meet the increasing demand from companies and organisations across sectors, Connect the Dots is automating its process to create a SaaS [software as a service] product. Data analytics and artificial intelligence will provide companies across the world with pre-event intelligence - thereby driving increase in conversions and return on investment.

What were the breakthrough insights and steps taken that shaped the early development of your business?

Marisa and Naomi: We never set out to start a business. Rather, Connect the Dots is a story of following demand, following what people wanted, and then realising there was a market for our services and a business around that.

Insight 1: *"We started off quite organically - just noticing a problem. We had been going to many conferences, networking events, and talks, but too often left feeling disappointed. The events seemed out of touch with what people wanted to hear and talk about. As a result, they were not as engaging, productive, or impactful as they could have been. We realised this was because the content and format of events were being decided from the top-down - based on guesswork rather than insights into the attendees. It's all about your users!"*

We then worked to develop a solution to this disconnect between what attendees were looking for and the event content/format. At the time, we were both interested in the topic of the reuse of vacant space and noticed that there was a lack of

productive events around the topic, so set about designing an event that makes an impact. To design the event though, we did one thing quite differently - we actually asked attendees what they wanted from it, what questions they wanted answered, who they wanted to meet, what perspective they were coming from, and more. We used all this to design the event in the most tailored way possible - the insights impacted every design decision, from the seating arrangements to the food choice to the discussion topics, conversation facilitation method and more.

Insight 2: For that first event, 50 out of the 50 people we invited came. And they asked for a second event, and another, and another. A year of events later, all done on a shoestring, we asked our attendees, the network that had come about through our events - what should be next for Connect the Dots. And they all said - become sustainable, create a business around this. So that's what we've tried to do since. Follow the demand!

Insight 3: We realised retrospectively and upon much reflection that we had developed a unique process for designing events - one that was user-first, insight-driven. We realised this is what gave us the success metrics we saw after each event - the high attendance and high engagement before, during, and afterwards. Giving people the unique opportunity to have a say in the event, to help co-design it, made attendees engaged and invested from the very start - thus more likely to show up to the event, and more likely to be engaged during it, because it would be tailored around them, and because they were engaged at it, they'd be more likely to be engaged after with the topic or the event host / client.

What we were doing was essentially design thinking, but applied to events. Since then, we have continued to work to clarify and iterate and cement our process - to the point that we are now working on automating it so that anyone can do an event using our process.

Insight 4: We decided to automate the Connect the Dots process to enable us to meet the high demand for it. But when we decided to automate, this meant that we needed to get funding and support from the tech start-up ecosystem. However, to get into the ecosystem and to get the funding

and mentorship we needed was quite the challenge. We eventually learned, however, that it really comes down to language - we weren't speaking the same language as the tech ecosystem, so no one was really understanding us. After much trial and error, we *'cracked the code'* (or so it felt) and soon we were getting into finals of competition, getting support from Enterprise Ireland, getting into entrepreneurship programmes and much more! A product is nothing without a clear story and language around it.

Insight 5: Throughout the whole process - and underlined by many of the programmes we have been on, the key to all this is your customer, the user. Just like how the Connect The Dots process is all about not relying on guesswork, but rather on insights, our business development process is now like that too. It is all focused on insights directly from our user - we are always talking to our customers, past, current and prospective, to ensure each step we take matches what they are looking for. Never stop talking to your user, to your customer.

Describe the market impact?

Marisa and Naomi: We have applied the Connect the Dots user-first, data-driven process to over 45 events so far, for clients from the Oireachtas to Accenture to Dublin City Council to Dogpatch, Suas, Community Finance Ireland, and many more.

For example, Accenture applied Connect the Dots to their annual event to recruit female entrepreneurs to their Leaders of Tomorrow programme, part of their overall marketing and recruitment strategy. By using Connect the Dots - gathering insights from attendees to inform the event design - the number of attendees doubled and the number of quality recruits quadrupled from the previous year, resulting in a large increase in ROI.

We have experienced a high rate of returning clients - over 80% of clients using Connect the Dots again after their first use. Connect the Dots was awarded a Competitive Start Fund from Enterprise Ireland in the end of 2017 and secured its place on KPMG's Going for Growth programme. Previously, Connect the Dots was a finalist in Accenture's Leaders of Tomorrow programme, Google Adopt a Start Up and the *'Ireland Funds Business*

Plan' competition run by the NDRC (National Digital Research Centre based in Dublin).

Discussion

With the failure rate for start-ups at 90%, Izzy Wheels, Connect the Dots and Turbospoke are certainly outliers. They should provide inspiration for future design-led and non design-led entrepreneurs and some valuable learnings towards improving success rates. There is much work to be done when it comes to advising and supporting entrepreneurial efforts, and we would like to share three observations that we feel are important.

Incubators, mentors and state agencies may glean some insight towards tackling the number one reason for failure, *'no market need'* (Insights, 2014). In each of the three examples, the founders practice absolute and upfront empathy for the user. They place the human need before any commercial considerations, trusting that creating real value will produce viable business opportunities. In essence, they are all *'need seekers'*, a characteristic booz & co have highlighted in the world's top performing innovation organisations (Jaruzelski & Dehof, 2008)

Secondly, they leverage a core skill of professional designers - the ability and creativity to create simple experiments that offer deeper insight. All three interviews demonstrate the benefits of rapid and iterative prototyping, applied very early in the process and cheaply through the use of any available means. This is similar to the idea of *'Bricolage'* (Boland et al., 2008), whereby the designer uses what is at hand to construct, create and learn. The advantage of this approach is that it builds the important early learning into the process, and as Charles Eames once famously said, *"you cannot delegate understanding"*. It seems eminently sensible to learn and de-risk early in any entrepreneurial effort, and seek to validate a value proposition from the beginning, but this contrasts the dominant, analytical approach often taught in business schools and across support programmes. Sarasvathy conducted a seminal study of 35 of America's most successful entrepreneurs and identified an effectual logic, which is the inverse of causal logic typical of MBA



programmes (Sarasvathy, 2009). It reflects very closely to the patterns of practice seen in four three examples.

Finally, it is clear that all four founders are flexible to adapt and learn to an evolving opportunity. They adopt an emergent strategy (Mintzberg & Waters, 1995) as against a very deliberately planned strategy. They are not bound by, or subservient to rigours of scientific or evidence based research, which at times is criticised for an inevitable continuation of historical approaches and a limiter of radical innovation (Ryan & Devitt, 2015). Instead, they make small guesses and test for reaction, affording scope for new-to-the-world solutions. They do seek evidence to support their directions and proposals, but it need not be upfront. Greg Bamford (2002) distinguishes the difference nicely, describing

the scientific, more rigorous, evidence based approach as a process of 'Analysis - Synthesis', whereas the design approach inverts this towards 'Conjecture - Analysis' or more simply, "Build, Measure, Learn" as evangelized by the lean start-up movement (Reis, 2011).

Entrepreneurs are a vital component in building and sustaining a nation's economy. Therefore, it is crucially important that the climate and supports are in place to help nascent entrepreneurs in their quest for success. We hope these three stories offer inspiration to the budding entrepreneur, and further learning and example for those who support entrepreneurial efforts. We are excited to follow Turbospoke, Connect the Dots and Izzy Wheels on their journey and we hope to see how the mindset, tools and process of design will further drive successful start-ups.

Connect the Dots