



Better Place

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When confronted with the question, 'how do we make the world a better place?' Israeli entrepreneur Shai Agassi had a simple response – *'we get rid of oil!'* Quite apart from the sustainability angle, for a country like Israel with few natural resources the strategic dependency on hostile neighbours for their prime source of energy was not a comfortable position to be in. Breaking out of the lock in, at least in the field of transportation, was his big dream.

This simple direct answer raised another big question - how to achieve this? – and his answer lay in shifting the economy over to electric cars. But to make that happen required innovation across a broad front. Many organizations had already been working on the dream and coming up against the reality of needing to solve a host of problems – not only around how to cut the cost to the point where electric vehicles could be as cheap as gasoline powered, but also how to address the infrastructure issues around recharging.

Batteries for electric cars are expensive, they take a long time to charge and they only hold enough charge to support short distance travel. 'Range anxiety' is widely recognised as a big issue – people will be unlikely to switch to electric vehicles unless they can either travel a long distance without needing recharging or else use an infrastructure of 'filling stations' where they can quickly recharger and be on their way. Despite big improvements in battery and charging technology this still remains a core barrier to widespread adoption.

Agassi's business model was intriguing; instead of owning the battery as part of the car as is normal, people would rent the battery and swap it in a filling station for a fresh one. Electric cars are cheaper to run than conventional gasoline powered cars but the high cost of the battery is a barrier to adoption. Agassi offered a subscription model, similar to a mobile phone contract, whereby customers paid for their battery through a rolling contract, rather than all in one go. Range could be dealt with through a battery swap system; Agassi intended to structure a system of battery stations that could swap a car's battery in a matter of seconds. His target was to make the experience simple and, crucially, as fast and convenient as possible. ¹

So far so dreamy. Realising this would take huge investment and require establishing a large-scale infrastructure of swap stations, plus developing technology which could enable the swap to take place without the need for people to get their hands dirty climbing inside the engine compartment of the car or requiring expensive swap station staff to do the job for them, adding to the cost.

¹ In doing this he followed in the footsteps of Thomas Edison who realized that the widespread move towards using electric power in the home would only come if people saw it as essentially similar to what they already had. Replacing gas lighting with electric required the construction of a whole electricity generation and distribution system – a big investment which in Edison's case paid off. Agassi's challenge was to do the same thing and create a 'smart grid' infrastructure from zero.

Crucially the problem with electric car concepts like this is the network effect; adoption won't happen until sufficient people are using the technology and there is a demonstration effect which others can see. So Agassi not only had technical problems to solve, he also had scale issues. How to demonstrate on a big enough landscape to show that his radical model could work? And how to do so when the nature of building the demonstrator meant that he had to spend most of his start-up money creating the infrastructure before he could show the benefits?

Israel seemed a prime contender for this demonstrator role. As a country it is relatively small and concentrated and so the infrastructure required would not be on a vast scale; in addition the length of average car journeys would be short. Another advantage is that its population are known as early adopters, open to new technology ideas. And most Israelis are acutely aware of the fragile position their dependence on outsiders for oil puts them in. In innovation adoption terms the environment and the potential adopter population were favourable factors.

Agassi was also able to attract interest from other countries, particularly Denmark where the vision of an eco-friendly transport system was seen as attractive.

At the outset all seemed to go well; an early supporter and challenging collaborator was ex-Prime Minister Shimon Peres. He brokered some high level introductions during the 2005 Davos summit with senior car industry figures and whilst many were sceptical Carlos Ghosn of Renault responded enthusiastically. Nissan/Renault had been working on several designs including the successful LEAF which has sold over 100,000 units and is produced in Japan, the US and the UK. In France the equivalent was the Fluence sedan and this was chosen to be the carrier for Better Place technology; Renault began offering a battery swap version alongside the fixed battery model. Production began at a factory in Turkey in 2011 of a 5 seater model capable of a range of 113 miles and with a price of around €26,000.

Agassi was able to raise over \$200m for his start-up (making it the 5th largest start-up in business history!) and put together some impressive technology (including a highly accurate automated battery swap system which involved transferring technology originally used in bomb-release mechanisms for the Israeli air force!). The commitment of major companies like Renault and widespread publicity ensured that the world was looking on at this bold experiment. Unfortunately it failed – and Better Place filed for bankruptcy in 2013, carrying huge losses with it. A total of 948 Fluence Z.E. cars were deployed in Israel and around 400 units sold in Denmark ; a total of 3,935 units have been sold worldwide through October 2014. The original plan was for Better Place to order up to 100,000 units from Renault but this never materialised and the Turkish factory closed in 2013.

Manifestly, a lot of money was gone; estimates suggest losses of up to \$800m. But the very public failure of Better Place also prompted a sea change in attitudes towards electric vehicles (EVs) in regions, such as Israel and Denmark, where they offered the most significance. A Danish EV driver described the negativity that is now entangled with EV's, *'Unfortunately, the fact that our country, together with only Israel, was the test lab for Better Place and the unfortunate Renault Fluence has meant that many people are now sceptical toward EVs'...* *'Better Place has made Denmark a worse place for electric vehicles since the company's dramatic demise in May 2013.'*

Much of the blame has been placed on Agassi himself; various publications have cited his essential character as the cause for Better Place's very dramatic downfall. This case study explores how many, if

any, of the reasons for the company's failure can really be attributed to leadership and the application of a flawed innovation strategy. If so, what can be learnt from this, and where does it leave the position of electric vehicles in 2015 and beyond.

The Clean-Tech Missionary

Better Place was first proffered as a concept at the 2005 World Economic Forum in Davos, Switzerland, but most people will have learnt about it, and its enigmatic founder, from Shai Agassi's 2009 TED Talk. Already a successful and credible entrepreneur he also had the ability to put his ideas across with passion and engage an audience.

http://www.ted.com/talks/shai_agassi_on_electric_cars?language=en

Agassi's talk highlights both his most valuable and his most destructive tendencies. '*A proud Israeli with a bit of a Steve Jobs complex*' as Fast Company described him, Agassi did indeed turn up to the TED Talk in a signature Steve Jobs turtle neck. He then went on to describe his concept along the same terms as the mp3; an innovation so radical that it changed attitudes regarding ownership forever. He also likened it to the abolition of slavery. And this is where commentators stumble.

Because in many senses Agassi is right. If implemented, the transition from oil to electric vehicles would make the world a profoundly better place, particularly in Agassi's home country of Israel. Agassi was acting as a one man hype machine for a world saving idea; he did the job extraordinarily well. Investment and important friends poured in, and it wasn't long before Agassi was positioned in a very conspicuous way as our saviour from big bad oil. Whether or not Agassi had begun the Better Place project with this understanding, it soon seeped into the rhetoric that surrounded him. In a feature with Wired magazine in 2008, Agassi was asked how he might deal with a competitor stealing his idea, to which he responded, '*The mission is to end oil, not create a company*'. The trouble for Agassi was that he really needed one to achieve the other. From some of its earliest origins, Better Place was more an ideology than it was a company.

The first customer deliveries of the Renault Fluence Z.E cars didn't take place until 2012, three years after Agassi's TED Talk. In keeping with the dramatic manner with which the project had begun, the Better Place dream was perpetuated through a theme park. Opened in February 2010 in a Tel Aviv industrial park, the Better Place visitor centre featured a deluxe cinema environment with reupholstered vintage car seats dubbed 'the solution centre', life size Agassi holograms, and a track where visitors could test drive the prototype cars. The centre has apparently hosted names such as Nicolas Sarkozy and Leonardo Di Caprio. A tour of the visitor centre can be viewed here: <https://www.youtube.com/watch?v=E7cby1Ko71c>.

Just as many had hopped onto the Better Place bandwagon in a flurry of idealism, there were many that continued to find the offer unsuitable. Notably, in 2009 the US Department of Energy offered loan guarantees to a collection of clean-tech start-ups, including Better Place's competitor, Tesla Motors. Better Place received none of this funding. It simply had not partnered with a single carmaker whose vehicles were currently available in the US. Aliza Peleg, Better Place's Vice President of

Operations until 2010 said of Agassi, *'by the time he's thought of something, to him it's been completed, it's been achieved.'* Carmakers needed a little longer than that. Any embedded conservatism in the carmakers' negotiations automatically clashed with Agassi's abundant futurism. The Renault Fluence Z.E was the only car to be available on the Better Place network. There was an urgency inherent in Better Place's ideology, but attitudes within the motoring industry needed time to adapt to Agassi's radical innovation.

Making it Happen - The saga of the robotic arm and other cautionary tales

The technology behind Better Place was impressive but sometimes the process of getting there was less than systematic. For example much effort was spent on the battery switch technology. Better Place customers needed only to drive up to the entrance of a battery switch station to start the switch process. The Oscar in-car navigation system uses a WiFi connection to communicate with the station's computers and an RFID tag on the windscreen of the subscriber's car identifies it. The barrier opens and the customer drives up to a mark. The dashboard screen and external monitors then give instructions to select Neutral and turn off the ignition. The remaining process is fully automated, similar to going through a car wash, so the driver never has to leave the car. In just a few minutes, a robot beneath the car removes the depleted battery and replaces it with a full one. Once complete, instruction is given to restart the car and an exit barrier lifts-

There is a story about the origins of Better Place's 'robotic arm' battery switching stations. Detailed in the 2009 Wired magazine feature, the idea was the product of an engineers and executives meeting to discuss the design for the new charging spots. Tal Agassi, Shai's little brother, proposed three potential designs, all of which were met with an abundance of questions. The nature of Better Place's value proposition meant that everything they did was being done for the first time. All of the proposed designs were too complicated in Shai's mind. Chaos ensued. Tal suggests a hydraulic arm. Further chaos. And before anyone knows it Shai has adopted a new idea with characteristic fervour, *'In 2008, we put the cable in the unit, in 2010 we use an arm, in 2012, there's a smart arm that connects automatically. For the home unit, the users get a pull cable for free, or they pay \$500 and they get auto connect. It'll cost \$250 to build, and we'll sell it for \$500'*. An example of what has been dubbed 'Shai math'; excitement around a concept derails analytical calculations for grand, less considered statements.

The robotic arm characterizes the extraordinary nature of a project as entangled with the future as Better Place. It is a brave concept, and really, methodical, incremental innovation seems somewhat unsuitable to the task. Equally, in order to achieve inexpensive, widely available electric vehicles with a functioning infrastructure in a limited time frame, something has to give. You can't be EasyJet and Concorde all at once. The robotic arm saga is a lesson in the necessity of reality checks. Every company - most people - will have their own 'robotic arm' moment. At this point priorities need to be evaluated - cost, time, technology, design - Better Place was acting as if it could have them all.

Further, there were oversights regarding the cultural infrastructure. Better Place was clearly doing something different, but it had to function within an already existing system. Car industry specialists

were startlingly few on the payroll. Israel particularly has a car industry that required specialist understanding. A large proportion of new car sales are to business fleets, who provide the vehicles to their employees. The workers pay a usage tax dependent on the vehicle's value, including the battery, making Agassi's value proposition of an affordable car much less relevant to these consumers. Agassi had been a talented communicator, but Better Place might have benefitted from a team of specialists equally able to listen.

The Alternative Routes to a Better Place

The title of Agassi's 2009 TED Talk implicated its magnitude - *'A new eco-system for electric cars'*. An innovation on this scale was bound to encounter hurdles. Disproportionate spending and a scarcity of reality checks featured in the company's downfall; perhaps unsurprisingly, when the very nature of its founder is to dream big. Equally, if it hadn't been so, the idea might not have seen its way past Davos. Those now taking precedence as legitimate EV producers will be learning from Better Place.

In June 2013 the Tesla Model S car was part of a demonstration showing a battery swap taking place in less than 90 seconds. Tesla offers the consumer a choice between charge or replaceable batteries. In its shareholder letter of November 2013 Tesla reported that 90% of its customers opted for the charging facility. Significantly, Tesla exhibited the capacity for open innovation in accepting the potential of battery swaps. By offering consumers choice, they allow their EV options to develop organically - demonstrating that particularly valuable business trait - listening.

Alternately, GreenWay, a Slovakian firm, is building an inexpensive EV charging infrastructure for its delivery vans. Developing on the Better Place concept, GreenWay has narrowed its market to a core segment. The vehicles operate on a lease basis, minimising high upfront costs to the customer. The radical innovation has been made- Agassi has suggested something completely new. Those taking the reins will be innovating incrementally on that basis. What can we expect from the future EV producers? Something a little quieter perhaps, a little more considered, and a lot less dramatic.

Further information on the Tesla Model S can be found here http://www.teslamotors.com/en_GB/goelectric# and on GreenWay here <http://www.greenway.sk/en>

What we can learn from *Better Place*

Looking back

This study looks further at the case of *Better Place*. In the years since the infamous bankruptcy of *Better Place* there have been a variety of summations of how the startup that raised almost a billion dollars of initial investment went on to fail so dramatically. One thing is for certain; there are several core lessons that can be learnt from this case that are worthy of careful consideration by any entrepreneur.

The main problems

In a broad sense, a significant portion of the blame for *Better Place's* downfall has been attributed to the hubris of its founder, Shai Agassi. However, a number of the issues that negatively impacted *Better Place* can be just as commonly encountered by innovators at any level, in any organisation.

- **Business Model vs Operating Model**

A fundamental part of *Better Place's* value proposition was that their electric vehicles would be equally expensive, if not cheaper than, gas (it is worth noting this was not a value proposition that had been adopted by *Better Place's* competitors). This was integral to ensuring the mass adoption of the technology that would financially justify the vast system of battery swap stations. In actuality, the eventual difference in cost was minimal. The core value proposition that was so integral to the business model turned out to be unsupported in the operating model.

- **Lack of Partners**

Better Place only managed to secure one partner for manufacture of its battery swap technology, *Renault*. The battery swap stations that were built were therefore only of value to owners of the Renault Laguna, and not to owners of any other electric vehicle. Because *Better Place* were not manufacturing their own vehicles, they were entirely dependent on *Renault*, and when initial sales began to slow, they were increasingly less able to persuade new partners to adopt the technology. (*Tesla* avoided this stumbling block by manufacturing its own vehicles, minimizing its dependence on partners).

- **Cost / Cash Flow**

The cost of the battery swap stations vastly overshot projections. A number of factors played a part in this. The swap stations had been intended to be connected to existing gas stations. It soon became apparent that this was not going to be possible in a number of cases, as many existing gas stations had already built extensions that didn't meet building regulations. As such, the swap stations often had to be built a significant distance away from existing gas stations, complicating the construction process. Additionally, once built, the cost of keeping the stations cool enough to preserve the batteries held within them were prohibitive. These high upfront costs severely limited the cash flow of the company.

- **Growing Too Fast**

While upfront costs remained high, and uptake relatively low, *Better Place* continued to pursue new markets. Before they were able to analyze the success or otherwise of the Israel system of battery swap stations, *Better Place* made the decision to expand into Denmark. This required significant investment, with very little gain, at a time when the company was already financially stretched to its limit. Clearly, each of these stumbling blocks are connected to the other. What is overwhelmingly clear is the importance of a considered business plan that makes account for deep investigation of key partners, costs, and value propositions, and allows for the opportunity to pivot along the way. (See: further information on the [Business Model Canvas](#) here).

The power of ethical consumers

Despite the obvious failings of *Better Place*, it was certainly not entirely without success. Its appeal was so significant that it attracted substantial investment, and those users who did buy into the technology held on to the product for as long as they could.

Brian Blum, author of '[Totaled](#): The Billion Dollar Crash of the Startup that Took on Big Auto, Big Oil and the World', describes how he and others continued to use their *Better Place* EV's even as the infrastructure to support them began to fail, 'With no robots to change our batteries, we figured out creative ways to keep driving, even with the car's limited range. Drivers began using a mobile app called the "Pony Express" to share our home charge spots'. [Another user](#) described it as 'like being in a secret society of doing good and being special'.

[\(You can find a video interview with Brian here in which he describes his experience as an early adopter of the Better Place model\)](#)



The significance of these statements cannot be overlooked. *Better Place's* value proposition of creating electric vehicles that are equally expensive as gas is not one that was adopted by its competitors. Therefore, users who buy into the technology are weighing up the financial cost with their own ideology, and choosing to place value in the latter. In the short term at least, adoption of electric

vehicles is driven by a moral value judgement, rather than a financial one. Mass adoption is only possible when combined incremental innovation in the field is able to shift this dynamic.

Why we need failures like *Better Place*

Great steps forward are only taken when entrepreneurs are willing to take great risk. It is a fact well known amongst entrepreneurs that failure goes part-and-parcel with meaningful innovation. In a letter he sent to other investors explaining *Better Place's* decision to liquidate in May 2013, [Mark Granoff said](#), 'Israel was home to the world's first full-service network for electric cars allowing uninterrupted travel across the whole country, and history will ultimately tell the significance of that milestone. While that might be little comfort to heartbroken customers, to investors, or to the hundreds of employees who need to find other work, all of us should hold our heads high in the knowledge that we played an important role in this burgeoning revolution'. It is a testament to the profundity of *Better Place's* mission that this letter touches such a sentimental note.

In a more specific sense though, the case of *Better Place* is important as an example of boundary-pushing innovation in an increasingly crucial field. It may be that the specific model and value proposition of *Better Place* failed in this instance, but they provide an important platform upon which incremental innovation can build. Certainly, the contributing factors that led to the downfall of the company are several, but there are no doubt similarly prescient opportunities for growth that have not yet seen their full potential. As [Blum succinctly puts it](#), 'the first company to develop a new product is often not the one that reaps the biggest rewards'. This is a fact that has been proven by multiple innovators at multiple times throughout history (See: the cases of *Hydrox* cookies vs *Oreos*, *Teddy Bears* vs *Billy Possoms*, and *VHS* vs *Betamax* [here](#)).

Ultimately, the case of *Better Place* provides us with fertile ground for exploring and understanding the process of managing innovation. Whilst *Better Place* may not have been a success itself, it presents us with the type of boundary-pushing innovation that is essential to the pursuit of meaningful progress.

Helpful Links for Further Reading

- <https://www.timesofisrael.com/the-electric-car-lovers-who-kept-plugging-along-after-better-place-died/>
- <https://digital.hbs.edu/platform-rctom/submission/why-better-place-is-in-a-better-place/>
- <https://medium.com/swlh/why-did-better-place-fail-and-tesla-succeed-711be0a40ba5>
- <https://www.greentechmedia.com/articles/read/ample-a-better-better-place>
- <https://chargedevs.com/newswire/new-book-tells-the-fascinating-story-of-shai-agassi-and-better-place/>
- <https://www.israel21c.org/valuable-lessons-to-learn-from-the-crash-of-better-place/>
- <https://www.fastcompany.com/3028159/a-broken-place-better-place>
- <https://www.forbes.com/sites/toddwoody/2012/11/01/better-place-raises-100-million-as-investors-double-down-on-electric-car-bet/#f0da60717792>

Audio Links

Podcast 'The Billion-Dollar Crash of Better Place' -

<https://www.greentechmedia.com/articles/read/reflections-on-better-place-electric-car-bankruptcy>

Podcast 'Billy Possom' - <https://99percentinvisible.org/episode/episode-40-billy-possum/>

Questions for Discussion

1. Consider other organisations / innovations that have failed, despite initial promise. What are the similarities/differences with the *Better Place* case?
2. Take a look at the [Business Model Canvas](#). Try to map the *Better Place* business model onto this framework. Discuss each of the segments, (key partners, revenue streams etc), and whether they contributed to the successes (where there were successes), or failures of *Better Place*.
3. Can you think of other examples where the original developer of an innovation was not the one to reap the rewards of its fruition? Discuss
4. Using the innovation adoption model try and explore the factors likely to accelerate or slow down take up. See [here](#).
5. How far do you think the problem was trying to do too much too soon?
6. Using the Network for Business Sustainability (NBS) framework where would you position Better Place – and why? Is this an example of the challenge of working at a systems level?
7. What are the challenges in moving to systems level innovation and what lessons does better Place offer to developing a sustainability-led innovation strategy?