

oikos Case Writing Competition 2015

Social Entrepreneurship Track

1st Prize

Fairphone: Organising for Sustained Social Impact

Inspection Copy

Onajomo Akemu and Gail Whiteman (Rotterdam School of
Management, Erasmus University)

This is an online inspection copy. Protected under copyright law. Reproduction
forbidden unless authorized. Questions relating to permission should be directed to:
CDC@RSM.NL

Copyright © 2015 by RSM Case Development Centre. All rights reserved. This case was
prepared as a basis for class discussion rather than to illustrate the effective or ineffective
handling of an administrative situation.

oikos case collection

<http://www.oikos-international.org/cases>

Fairphone: Organising for Sustained Social Impact

ABSTRACT

With no previous experience in the mobile phone industry, Bas van Abel, an industrial designer based in Amsterdam, started Fairphone as an NGO [non-governmental organisation] awareness campaign in March 2010. He hoped that by inviting the public to design collaboratively a prototype of a “fair” smartphone, the campaign would raise the Dutch public’s awareness of the link between mobile phones and minerals mined in the context of a bitter civil conflict in the Democratic Republic of Congo (DRC). Van Abel did not intend to produce a functional, commercial smartphone; his goal was simply to raise public awareness. However, by January 2013, through a series of serendipitous events, interaction with industry actors, and encouragement from sections of the Dutch public, the awareness campaign had morphed into the social enterprise Fairphone. With co-founder Miquel Ballester, van Abel wanted Fairphone to produce “a seriously cool phone putting social values first.” Within six months of the company’s founding, Fairphone attracted a large following in the media and among socially-conscious consumers across Europe. In mid-2013, these customers fully financed the production of 25,000 smartphones (priced at €325 apiece) through a crowdfunding initiative—a remarkable token of trust in a start-up that had never produced a smartphone.

Van Abel and the Fairphone staff, consisting largely of “creatives” and “story-tellers,” had to learn very quickly how to produce a high-quality smartphone—a complex product—in a competitive industry while keeping their promise to improve the social welfare of underrepresented mine and factory workers along the mobile phone industry’s supply chain. After experiencing myriad quality problems while manufacturing the phone, van Abel and the Fairphone staff successfully delivered the first batch of “fair” smartphones to customers by Christmas 2013. In February 2014, after all smartphones had been delivered to customers, van Abel felt that it was time to take stock and plan for the company’s future. In order to fulfil its two-fold mission, Fairphone had to scale up production to become a “real” company. How should Fairphone reach a larger audience with its message and product? How should the organisation be designed in order to achieve this mission?

“This area depends on quarries and mining. If there is no mining there is no money. No money, no life.”

Coltan miner in Katanga region of the Democratic Republic of Congo (DRC) speaking to Fairphone CEO, Bas van Abel, during the latter's visit to DRC in 2011.

Bas van Abel, founder and CEO of Fairphone, addressed the Fairphone staff at the company's 2014 New Year brunch: “I don't want to talk too much because that's what we have been doing for a year already.” There was laughter around the room. Van Abel continued, “We did a fantastic job last year. We started out with just the two of us. Today, there are twenty-something people at this table. I want to thank everyone here from the deepest part of my heart for making this possible.” There were claps and cheers from the Fairphone staff. Fairphone had indeed achieved a remarkable feat. At incorporation in January 2013, the company had no phone, no distribution network, and no customer. None of the founding employees had work experience in the mobile phone industry. However, by February 2014, Fairphone had produced and delivered 25,000 “fair” smartphones to customers in 32 countries.

Van Abel had founded Fairphone with a mission to “produce a seriously cool smartphone putting social values first.” He wanted to produce a competitively-priced, aesthetically-appealing, mid-range smartphone that would rival any in its price category. However, he wanted to do so in a way that ameliorated the dark side of the mobile phone industry: use of conflict minerals; poor working conditions in East Asian factories; and electronic (e)-waste dumped in developing countries. The company had taken its first steps, but van Abel felt that Fairphone had to produce far more than 25,000 phones in order to fulfil its mission. Two questions weighed on his mind during the New Year brunch: How should Fairphone reach a larger audience with its message and product? How should the company be designed in order to achieve its mission?

BACKGROUND

Metals are vital to the mobile phone industry. Tantalum, a rare bluish-grey metal, for example, is used to make capacitors that store electric charge in mobile phones while tin is used to solder printed circuit boards, the miniature platforms that connect electronic components within phones. Where do these metals come from? From minerals located below the surface of the earth in the eastern Democratic Republic of Congo (DRC), a region rich in mineral deposits. See Exhibit 1 for a map of the DRC. The most important of these minerals are cassiterite (tin), wolframite (tungsten), columbite–tantalite (tantalum) and gold. Sadly, these minerals have been implicated in a bitter civil war in the region.

Following the collapse of the Congolese state in the mid-1990s, the eastern DRC has been engulfed in civil conflict. Rebel groups, private firms and foreign-backed militia loot the DRC's mineral resources in exchange for arms and cash.¹ In the process, these groups inflict appalling violence on the local population. The scale of human suffering in the DRC is staggering. In a widely-cited study, researchers estimated that 3.9million people died in the period 1998–2004 as a result of civil conflict in the DRC.² The prevalence of rape and gender-based violence is even more heart-breaking. The DRC was labelled “the worst place on earth

¹ United Nations (2001). *Report of the panel of experts on the illegal exploitation of natural resources and other forms of wealth of the Democratic Republic of Congo* (S/2001/357 ed.) page 29-36; New York: United Nations.

² Coghlan, B., Brennan, R. J., Ngoy, P., Dofara, D., Otto, B., Clements, M. et al. (2006). Mortality in the Democratic Republic of Congo: A nationwide survey. *The Lancet*, 367, 44-51.

to be a woman”.³ Minerals mined in the context of the DRC’s conflict are called “conflict minerals”.⁴

Civil society organisations like U.S. NGO [non-governmental organisation] Global Witness and Dutch NGO SOMO [Centre for Research on Multinational Corporations] have campaigned to raise public awareness of conflict minerals. These organisations argue that increased global demand for smartphones fuels the conflict in the DRC as militia groups compete to control mines that supply increasingly valuable mineral ores to the mobile phone industry.^{5,6}

Life begins as an awareness campaign

In September 2009, Bas van Abel met his close friend Peter van der Mark at their local pub in Utrecht, a picturesque city in the Western part of the Netherlands. At the time, van Abel was creative director at Waag Society (hereafter Waag), a product design institute located in Amsterdam, and van der Mark was a public relations expert with communication company Schrijf–Schrijf. As they discussed work, van der Mark told van Abel about a campaign that he was developing on behalf of a client, international development NGO Niza.⁷ The objective of the campaign was to raise the Dutch public’s awareness about the connection between consumer electronics and the conflict in the DRC. Van der Mark was dissatisfied with his progress on the campaign. He asked van Abel to help him design a more creative awareness campaign. By his own admission, van Abel knew little about conflict minerals. In a November 2013 interview, he said, “I didn’t even know about conflict minerals when I started this [Fairphone] project. That was the interesting part. I got to know [about conflict minerals] through the question from Niza and Schrijf–Schrijf...that got my attention because I thought, ‘I don’t even know about this thing.’”

After discussing various ideas, van der Mark and van Abel settled on one campaign idea: to invite the public via social media and other online platforms to develop collaboratively a “fair” smart phone—a phone that would be conflict mineral-free. They called the campaign Fairphone. Soon after van der Mark and van Abel hatched the idea for a fair smartphone campaign, they were joined by two activists from Niza to form the Fairphone campaign team. In March 2010, the team secured a financial grant from a government agency NCDO [National Commission for International Cooperation and Sustainable Development], to run their campaign. Fairphone the awareness campaign, led by van Abel, was born.

The Fairphone campaign team had neither the expertise nor the intention to make a functional, commercial product. Van Abel: “Yes, I was interested in making the [prototype] phone from a purely design perspective, but not the business side to it. The whole aspect of bringing the phone to market did not interest me. I was intrigued by the fact that everything comes from the ground.” In the grant application made to NCDO (November 2009), the

³ Kahorha, J. (2011) *The Guardian*: The worst places in the world for women, June 4 (<http://www.theguardian.com/world/2011/jun/14/worst-places-in-the-world-for-women-congo>)

⁴ OECD. (2013). OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas (2nd ed.). Paris: OECD Publication

⁵ Global Witness. (2008). *Recommendations on due Diligence for Buyers and Companies Trading in Minerals from Eastern DRC and for their Home Governments*. (<http://www.globalwitness.org/library/recommendations-due-diligence-buyers-and-companies-trading-minerals-eastern-drc-and-their>)

⁶ Pöyhönen, P., Bjurling, K. A., & Cuvelier, J. (2014). *Voices from the Inside: Local Views on Mining Reform in Eastern DR Congo*. (http://www.somo.nl/publications-en/Publication_3586/?searchterm=ed)

⁷ Niza is acronym for Dutch Institute for Southern Africa. In 2012, Niza merged with NGO ActionAid Netherlands.

campaign team described Fairphone as follows: “Via stories, videos and pictures on online platform, social media and blogs we will demonstrate the situation in the Congolese mines that supply the mobile phone industry with minerals.” They proposed to purchase minerals from the DRC and that the “purchased minerals would be processed into a prototype mobile phone”. They did not explain how. Any resulting prototype would be exhibited at a museum in Amsterdam as part of the awareness campaign. With grant money in hand, the Fairphone team launched a Twitter account, Facebook page and a web site in the summer of 2010. They invited the public to contribute ideas for a fair smartphone.

The media get involved. The Fairphone campaign soon received a publicity boon from events that kept the DRC and conflict minerals in the news. In July 2010, the U.S. Congress passed the Dodd-Frank Act, which requires U.S. companies to demonstrate due diligence in sourcing minerals from the DRC. In the same month, Belgian author, David van Reybrouk published a best-selling book about the DRC.⁸ In September 2010, critically-acclaimed documentary, *Blood in the Mobile* was released. In the documentary, director Frank Poulsen suggested that Nokia, then the world’s largest mobile phone company, had ignored the immense human suffering attending the extraction of conflict minerals in the DRC.⁹ Van Abel was invited to the screening of the documentary at a popular film festival in Amsterdam.

Only seven months after Fairphone was launched, the campaign received favourable reviews from the Dutch media. Influential magazine *Vrij Nederland*¹⁰ stated, “The Fairphone community is frantically developing a mobile phone that guarantees that the consumers’ hands are clean [from conflict minerals]. It is not clear when they will realise their goal, but they hope to achieve one thing: to shake up the complacency of the industry incumbents regarding conflict minerals.” In November 2010, van Abel appeared on national television speaking about conflict minerals in smartphones.¹¹ By December 2010, nine months after launch, the campaign team counted 400 online community members. These were people who had subscribed to Fairphone’s newsletter or followed the campaign on Facebook.

Trip to Congo, corporate interest and an unexpected prize. In January 2011, the campaign team received another financial grant—from the foundation Stichting Doen. The grant application was written by Sacha van Tongeren, a project manager at Waag who had joined the Fairphone campaign team. Speaking of the mood within the team in early 2011, van Tongeren recalled, “We were not sure what we were getting into. Really.”

In February 2011, van Abel and two campaign team members travelled with a documentary maker to Katanga, in the eastern DRC, where they met Congolese government officials and miners. See Exhibit 2. It gives an overview of the trip. In Katanga, the team shot several hours of video material for the ongoing campaign in the Netherlands. Shortly after returning from the DRC, van Abel was invited to speak about Fairphone to the board of directors of KPN, a mobile network operator (MNO) in the Netherlands. KPN eventually agreed to buy 1,000 fair smartphones if they were ever available. Van Abel recalled how KPN became Fairphone’s first customer for a product that did not exist: “My neighbour works for KPN. I asked him, ‘Hey, who do I need to talk to if I want to get Fairphone into KPN?’ Then I contacted KPN and talked to one guy. He was impressed with the story and he put me in

⁸ Van Reybrouk, D. (2010). *Congo: Een geschiedenis* (Translation: Congo: A history). Amsterdam: De Bezige Bij.

⁹ Poulsen, F. (Director). (2010). *Blood in the Mobile*. Copenhagen. <http://bloodinthemobile.org>

¹⁰ Oberndorff, M., Vanheste, T., & Korai, Z. (2010). Jacht op conflictmineralen: Bloed achter de schermen (Translation Hunting for conflict minerals: Blood behind the screens). *Vrij Nederland*. October 21

¹¹ NOS News. NOS journaal op 3. <https://vimeo.com/18747108> .

contact with an influential executive there and the ball got rolling...And we used that in the media.”

The campaign team continued telling Fairphone’s story to the Dutch media and a growing online community. In addition to employing footage from the Congo trip and telling the press about KPN’s endorsement of Fairphone, van Abel and the team devised clever publicity events. For instance, they hosted mining workshops around the country and at the 2011 Lowland Music Festival. At these workshops, they invited the public to “mine” used phones for recyclable metals such as tantalum, cobalt and gold. See Exhibit 3.

In November 2011, the Fairphone project received unexpected recognition: it won a prestigious €10,000 ASN Bank Prize for sustainability.¹² This was an incredible achievement given that the campaign team had no prototype fair smartphone, no mobile phone industry experience and no idea how to make a commercial product. Van der Mark:

After winning the ASN Bank Prize, every newspaper in Holland wanted to write about Fairphone and this great idea. But I think the most important thing that happened there was that we all got the feeling, ‘this has to go on. We cannot stop this.’ We have to do something with this great idea. People are really interested in an organisation that wants to show the world that it is possible to make a fairer phone.

Lifecycle of mobile phones is more complex than conflict minerals

Fairphone had begun as an awareness campaign focusing on conflict minerals in the mobile phone supply chain. As van Abel and the campaign team researched the mobile phone supply chain, a picture of the supply chain began to emerge. (See Exhibit 4 for a depiction of the trajectory of materials during the lifecycle of mobile phones.) Through a dense network of middlemen operating across eastern Africa, conflict minerals are graded and transported to smelters in East Asia. The smelters extract metals from the refined ore and sell the metals to electronic component manufacturers who, in turn, sell their components to phone manufacturers located in China.

The Fairphone team realised that conflict minerals were only the tip of the iceberg of unfair practices in the supply chain. Mobile phones were assembled under poor working conditions in factories. Often, workers were not paid the legal minimum wage or worked long hours without adequate compensation. In fact, poor working conditions had been implicated in a spate of worker suicides at Chinese mobile phone manufacturer Foxconn.¹³ Even at the end of their useful lives, mobile phones from Europe were often dumped in developing countries like Ghana, where they formed piles of potentially toxic electronic (e)-waste scavenged by desperately poor slum dwellers in search of valuable metals like copper and gold. See Exhibit 5, which shows one of the largest e-waste dumps in the world, Agbogbloshie in Ghana.

Crisis and a serendipitous discovery

By the spring of 2012, the Fairphone team had run a successful media campaign. They even had an artist’s impression of a smartphone (see Exhibit 6). However, the campaign team reached a crisis point: the grant money had run out and the team could not decide how to develop Fairphone. Van der Mark said of this period:

¹² ASN Bank (2011). Winnaars ASN Bank Wereldprijs 2011 bekend (Translation: Winners of ASN Bank World Prize announced) <http://voordewereldvanmorgen.nl/Nieuws/winnaars-asn-bank-wereldprijs-2011-bekend>

¹³ Chan, J. (2013). 'A suicide survivor: The life of a Chinese worker'. *New Technology, Work and Employment*, **28**, 84-99

When the [grant] money was over, we thought, 'well, what are we going to do next, are we going to make a phone? Is that not really too difficult? ... We thought about making a battery, nobody dared to say, 'we are going to build a phone,' because we thought, that is too complicated for a small team in Holland, to build a smartphone.

In addition to the uncertainty regarding the future direction of the Fairphone idea, project team members withdrew or scaled back commitment to Fairphone. The Niza activists left the team due to internal disagreements and van der Mark reduced commitment to Fairphone in order to focus on his job at Schrijf–Schrijf. The campaign team now consisted of Bas van Abel, Sacha van Tongeren, and Miquel Ballester, an intern at Waag.

Even if the team wanted to produce a smartphone, how would they do so? Certainly not on donor grants. As Ballester explained in a December 2013 interview:

The funding for Fairphone as a project within Waag was coming to an end; that was not a sustainable situation. We could do awareness campaigns with external funding, but you cannot build a phone with that. That was also not the purpose of that funding. That funding was specifically about creating awareness.

Designing a phone from scratch is a capital intensive process—and van Abel now realised just how much capital: several million euros. How would van Abel, with no experience in the mobile phone industry, raise such a large sum of money? Even if he raised the money, was there a market for a fair smartphone?

Amidst this uncertainty, van Tongeren, Fairphone's project manager, serendipitously discovered an opportunity to develop further the Fairphone idea: an innovation incubation programme in London. The organisers of the programme had put out a call for socially-innovative entrepreneurial ideas. Van Tongeren explained:

After 2½ years of doing research at Waag there came this opportunity [with the incubator]. I saw it actually. I remember, I saw it on a Thursday in my inbox. We were already going about this for a few months asking, 'What are we going to do with this Fairphone idea? What shall we do next? Should we start our own company?' It is really scary to go that way, you know.

She continued, "I receive a lot of emails because I am in a lot of networks. It wasn't as if I was looking for an accelerator programme, but reading the text I thought, 'This is it; this is what Fairphone needs right now.' I submitted the Fairphone plan [to the incubator] without consulting anyone."

Van Abel and Ballester hurriedly applied for the programme via the incubator's website. Eventually, Fairphone was one of 10 business ideas selected for a three-month intensive entrepreneurship "bootcamp" accelerator programme. Ballester explained the significance of being selected:

The fact that we were accepted in the bootcamp in London had a big influence. Until then, we always said like 'we are making this phone or we are going to make this phone', but there was no asset to do so...I would say from the beginning of the bootcamp was when we really thought, 'OK, we are going to make this happen.'

Van der Mark corroborated:

For me, being in London [the accelerator programme] in September 2012, I guess, for me was the first time someone told me, 'we are going to make a phone'... For me, making a mobile phone is like going to Mars, you know, but these guys [van Abel and Ballester] found out pretty quickly that it's not that difficult because a lot of factories already make phones, and you don't have to make it your own.

After writing a business plan, van Abel and Ballester secured €400,000 investment from an angel investor/organisational consultant. In January 2013, Fairphone the social enterprise was incorporated with two employees: Ballester as product strategist and van Abel as CEO.

FAIRPHONE THE SOCIAL ENTERPRISE

Designing a phone from scratch was out of the question for Fairphone. Van Abel and Ballester had neither the financial resources nor the expertise to do so. They estimated that the €400,000 working capital would last until May 2013. By then, Fairphone had to license a reference smartphone design, incorporate conflict-free components therein and raise additional capital to finance production of the fair smartphone. If not, then Fairphone the social enterprise would not survive its first six months.

Sourcing conflict-free minerals from the DRC

Where does one find certified conflict-free minerals in the DRC? In 2010, U.S. congress passed the Dodd-Frank Act. This legislation requires companies publicly-traded in the U.S. to demonstrate that minerals used in their products do not fund armed groups in the DRC. Many U.S. companies reacted to the legislation by avoiding sourcing from the DRC altogether. This reaction may have inadvertently jeopardised the livelihoods of artisanal miners in parts of the DRC that were not controlled by militia groups. One miner articulated the issue during van Abel's 2011 visit to the eastern DRC: "This area depends on quarries and mining. If there is no mining there is no money. No money, no life." Van Abel wanted to source conflict-free minerals from the DRC as part of Fairphone's mission. However, given Fairphone's limited resources, the company could not build a supply chain for conflict-free minerals from the DRC.

Luckily, while Fairphone was an awareness campaign, some industry players were creating conflict-free supply chains in the DRC. In July 2011, in response to the Dodd-Frank legislation, U.S. telecommunications corporation Motorola and tantalum capacitor manufacturer AVX founded the Solutions for Hope (SfH) project, a pilot programme to source conflict-free tantalum from the DRC. Similarly, another multi-stakeholder initiative, the Conflict Free Tin Initiative (CFTI) was launched in late 2012 under the sponsorship of the government of the Netherlands.

As soon as Fairphone was incorporated, van Abel enlisted Fairphone into the SfH and CFTI. In February 2013, van Abel travelled to the eastern DRC for a second time at the invitation of The Netherlands' envoy for mineral resources, Prince Jaime de Bourbon Parme, a member of the Dutch Royal family who had been influential in setting up the CFTI in eastern DRC. (See Exhibit 7 for an overview of that trip.)

Van Abel happened upon the CFTI and SfH as he interacted with industry, governments and civil society groups. He had played no role in founding these initiatives. Nevertheless, these initiatives were very important to Fairphone because they enable the company demonstrate commitment to conflict-free sourcing without incurring the considerable costs of setting up a conflict-free supply chain.

License a reference smartphone design

With no in-house engineering expertise at Fairphone, van Abel needed to find a partner who: (1) would accommodate Fairphone's value proposition to improve conditions in the supply chain; and (2) could reliably produce a high-quality smartphone incorporating conflict mineral-free components. Between March and May 2013, van Abel and Ballester travelled to China to meet phone manufacturers. In this highly-competitive industry, factory managers were opaque. They would not reveal their suppliers' identities. In general, factory managers were not interested in producing small batches; managers at one factory in Shenzhen did not even bother to attend the meeting that had been scheduled with Fairphone's founders.

Finally, van Abel and Ballester met managers of a mid-size smartphone factory in Chongqing, Guohong. Guohong's management team agreed to license their smartphone design to Fairphone for a small fee. Further, Guohong managers agreed to reveal the identity of their suppliers, to use some conflict-free components, and to support a social assessment of their factory.

Van Abel reached an agreement with Guohong's management to improve working conditions in Guohong's factory as part of Fairphone's mission: for every smartphone produced, Fairphone would contribute \$2.50 to a worker welfare fund; and Guohong would match Fairphone's contribution, making a total of \$5 per phone available to the fund. The factory workers would collectively disburse these funds. However, Fairphone would help them to set up a system of representation to ensure fair worker participation in the fund. Van Abel left China with a smartphone design in hand. It was time to finance the production of a fair smartphone based on that design.

Community rallies to the cause

In January 2013, van Abel hired Fairphone's first paid employee, Tessa Wernink, as communications director. By April 2013, he had hired five more people to the Fairphone team (average age 33) with backgrounds in international development, sustainability and communication. None of them had worked in the mobile phone industry. The company's primary focus was telling the story of Fairphone to the public. Van Abel and his staff decided to produce 20,000 smartphones based on Guohong's smartphone design.

How would Fairphone finance the production of 20,000 phones? After deliberating their options, they chose to appeal directly ("crowdfund") to its online community of followers, numbering about 16,000 subscribers on Fairphone's website. The crowdfunding campaign was straightforward: customers would pay €325 upfront for delivery of 5,000 phones by autumn 2013. Van Abel hoped to raise enough money to pay for 5,000 phones, which he estimated was the number of phones needed to cover the down payment to Guohong for 20,000 smartphones. By early June 2013, three weeks after launching the crowdfunding drive, all 5,000 phones were sold out. Two weeks later, a total of 10,000 phones were sold.

The crowdfunding campaign generated substantial international media coverage for the company. In June 2013, Fairphone became a big news story in Germany, Austria, Switzerland and Britain. Wernink, communications director: "I was amazed that *Al-Jazeera* and *the Wall Street Journal*, CNBC, *The Guardian* and BBC, everyone needed to report about us...the level of attention was quite amazing." In September 2013, van Abel and the Fairphone staff increased the number of phones on order to 25,000. These were all sold out by mid-November 2013. The results were startling. In its first year of operation, Fairphone had pre-sold 25,000 fair smartphones at €325 apiece without producing a phone.

Media coverage, website traffic and pre-order sales showed that the crowdfunding drive was a success. Exhibit 8 shows the number of subscribers to Fairphone's online newsletter and the web traffic the company attracted in the period. During the crowdfunding campaign (May-June 2013), over 550,000 unique visitors visited the company website up from 25,000 a month before the campaign. In the same period, the company recorded over 7,000 new newsletter subscriptions.

Fairphone's internal organisation

After the successful crowdfunding initiative, Fairphone was in an enviable position for a start-up. In its first year, the company had generated millions of euros without producing a smartphone. However, success masked deeper challenges within the company. None of the

founding employees knew how to develop or manufacture a smartphone. Furthermore, there was little formal organisational structure. There was virtually no role differentiation among employees, no management information systems and no formal procedures for doing business. Recalling the first year, one of Fairphone's founding employees said:

It is such a group that was involved in the start-up [Fairphone]. Everybody has a say on different things and everybody wants to have a say. Everybody was involved in everything. Last year [2013], all of us attended every meeting. We were doing everything with everybody. It felt as if we were so flexible last year. We could directly react on things we saw happening with the media and with public opinion. We were very naïve, but flexible.

Events unfolded so rapidly that van Abel and the Fairphone staff could not plan proactively. Recalling the crowdfunding drive, Wernink said, "I have never been on a train that's run so fast. When we first started the crowdfunding campaign, in April [2013] we were writing communication strategy milestones and calendar. Then we realised that every two days it changed. Then I stopped writing them." In June 2013, after the pre campaign, issues of internal organisation were far from van Abel's mind. He had to deliver smartphones to customers by the autumn of 2013.

PRODUCING A FAIR SMARTPHONE

Van Abel knew that in addition to addressing the needs of underrepresented actors such as factory workers and miners in the DRC, Fairphone had to produce a high-quality product in order to fulfil its mission. Yet, no one in the company knew how to produce a smartphone. In July 2013, van Abel hired two more employees: a project manager to work with Guohong in China; and a new chief technology officer (CTO)—Fairphone's only employee with phone industry experience (10 years). Fairphone's CTO concurred with van Abel on the importance of quality:

We are making more sustainable consumer electronics...But if we deliver to the customer a sub-par product that he will have to replace in a year's time, then people will say, 'that is a nice sustainable consumer electronic, but it doesn't work'...We have to make sure that it does work perfectly otherwise our point doesn't get across.

With the help of a friendly contact at a mobile network operator (MNO), van Abel and his CTO negotiated an operations audit of the Chongqing factory with Guohong. The objective of the audit: to assess the operational and technical quality of Guohong's manufacturing processes.

Operations audit

The results of the operations audit, conducted in September 2013, were not positive. "The [audit] report came back...the first slide said, 'free food,' 'free dorms,' and then fifty slides of 'opportunities for improvement,'" Fairphone's CTO admitted euphemistically. The audit highlighted a troubling implication of Fairphone's model. Fairphone had virtually no engineering and limited financial resources; therefore, the company needed to partner with the best smartphone manufacturers to produce 25,000 high-quality phones for the European market. But the best smartphone manufacturers did not want orders of only 25,000 phones. The best manufacturers produced millions of phones per year for global brands like Apple, Samsung and HTC (see Exhibit 9); Fairphone's 25,000 phones order would be scarcely a day's work.

Even if these manufacturers had agreed to produce for Fairphone, van Abel knew that with such a small order size, he could hardly influence manufacturers to use certified conflict-

free components or improve factory conditions. Fairphone's choices were thus limited: the company had to partner with smaller manufacturers like Guohong because they were willing to produce small batches and were more open to Fairphone's social value proposition. However, factories like Guohong, which had never produced smartphones for developed country markets, were less professional and less efficient than the larger manufacturers. Producing a quality phone to meet the requirements of the European market would be an uphill struggle.

How to manufacture a smartphone

In October 2013, van Abel hired two external production quality assurance/control (QA/QC) consultants to work with Guohong in Chongqing. "Manufacturing a phone is a complicated process. Basically, you have three stages before you manufacture a phone: the design or prototyping stage; the design verification test and the process verification test," van Abel explained. Exhibit 11 outlines the process of developing and manufacturing a smartphone.

Prototype stage. Fairphone had a phone design from Guohong; both companies had agreed that the phone would be reconfigured to incorporate conflict-free tantalum capacitors, conflict-free solder paste from the DRC and recycled plastic. Van Abel: "The design of the phone has to be perfect because that is what you base production on, but we found a lot of errors in the beginning stage that we couldn't accept." For instance, the time taken for the GPS [global positioning system] on the prototypes to receive a fixed signal was too long. In some prototypes the vibration mechanisms did not work properly. Some problems were logistic. Prototypes were sent to Fairphone's office in Amsterdam without prior testing and labelling. Fairphone's CTO explained in exasperation in mid-October 2013: "At one point, we had three different versions of phones that were assembled at three different times with three different sets of components, but you don't know which one was which."

Guohong's management was cooperative throughout the prototype design process. They wanted to produce a high-quality phone for the European market. Hence, they assigned senior management staff to work exclusively with Fairphone representatives in the Chongqing factories. Van Abel travelled frequently to China to monitor the development of the prototype:

We did not intend to design our own phone yet, but we practically ended up designing the phone. If we had made it from scratch it might have been easier....We are managing a lot of the process. We are actually in five factories looking at production aspects with three people working their asses off.

Would the final prototype pass operational quality tests? Van Abel sent the prototypes to a friendly contact at a mobile network operator (MNO) for evaluation. "We were involved in the whole design and re-engineering of the phone. We put in a lot of effort into the prototype. They [the MNO] checked the prototypes and they were quite positive." That verdict was a huge relief to van Abel and his staff. Fairphone had a working prototype.

Design verification test (DVT). During a DVT, hundreds of phones are assembled using materials from suppliers in order to produce a consistent high-quality phone. Van Abel: "Just because you have one good prototype it does not mean that you can go off and make 25,000 phones." The design verification tests began in mid-October 2013.

This phase was particularly challenging. Despite having three full-time Fairphone representatives in Guohong's factories, phone defects kept piling up. These ranged from the functional, such as improperly glued phone cameras, to the cosmetic, such as dust behind the touch panels. Moreover, defects appeared to be random in nature. The design verification

tests, which normally take three days, took four weeks. This resulted in delays to the production schedule. By mid-November 2013, van Abel was clearly frustrated with the progress of the design verification tests—and the stress started to show. He had to communicate the delays to 25,000 waiting customers while motivating his staff and managing relations with the factory. Clearly upset with the pace of progress, he said during an interview in mid-November 2013:

The great thing about entrepreneurship is the strategic part. But you don't do much of that in a start-up. There is a lot of ad-hoc stuff you need to do. It is a roller coaster as well, which is fine. Every time you think you've addressed a problem, and you think now it is OK, another thing pops up. I want to get rid of all these moving targets.

He observed reflectively:

We wanted to influence the factory. We wanted to be able to grow with the factory. Looking at it now, maybe we have taken too many steps at once. We want to do so many things, we were so ambitious, but then you get stuck with production problems.

That's the life of a start-up; that's entrepreneurship; I don't know. I never chose to be an entrepreneur; it just happened. I like design more [than being an entrepreneur], I can tell you it is a lot of pressure. At a certain point, you've worked yourself through two or three burnouts because you didn't have time to have a burnout.

Van Abel felt that due to a lack of formal internal company structure, he was shouldering much of the burden for the company's success. He felt torn between focusing on the product and continual engagement with the online community: "It is really busy. The pressure of this [delivering the phone], I think I am the only one who feels both worlds...People are asking, 'What are your future plans?' I say, well, 'I cannot think about next steps because I don't know whether the product will be fine.' My head is not clear for it right now."

Slowly, Fairphone's agents in the factory and Guohong's workers started significantly reducing defects in the phones. Fairphone's CTO speaking in November 2013 about the improvement said, "We set the standard quite tight and today our project manager in the factory said that the workers were so careful with the inspection that they even picked up defects that our people could not see." See Exhibit 12. It shows the factory floor with assembly workers during the DVT.

Process verification test (PVT) and mass production. After the phone design and quality controls are in place, the process verification test is done to ensure that the assembly process is done with minimal defects due to the assembly process. The first PVT was performed in late November 2013. There were still problems with the assembly process, but these were fewer than during the DVT. Van Abel did not have a phone in hand, but he sounded optimistic:

I [will] only believe it when the phones are here. That's when I will feel relieved—and that the phones work, of course. We are managing a lot of the processes. We have three people in five factories looking at the production aspects and working their asses off. We'll get there—I know it.

See Exhibit 13 It shows the number of defects per 100 phones assembled during the DVT and PVT. The graph shows a downward trend in the defect rate from 100 to 15 per 100 phones. Fairphone was ready for mass production. The first 2,000 smartphones were assembled and delivered to customers on 24 December 2013. This was a psychological victory for van Abel and the Fairphone team because the first phones had reached customers before the Christmas holidays. By early February 2014, all 25,000 phones had been assembled and shipped to customers.

Reception of the world's first fair smart phone

The fair smartphone was positively received by customers and the media. See Exhibit 14 for a picture of the phone. A survey of 730 customers taken in March 2014 showed that the company enjoyed high brand equity among users of the phone (see Exhibit 15). At the time of writing this case (May 2014) fewer than 150 phones (.6% of total) had been returned to the company. Media houses such as Germany's *Deutsche Welle* covered positively the release of the phone describing the fair smartphone as "a smartphone for a good conscience."¹⁴

The company was certainly perceived as being fair by its stakeholders in Europe. In a benchmarking exercise conducted by Dutch sustainable consumer website, Rank-A-brand, Fairphone was highest ranked of 20 smartphone companies in terms of sustainable performance (see Exhibit 16). Similarly, in a March 2014 survey, representatives of German civil society groups rated the company highly in terms of its efforts to improve design, transparency and sustainability practice (see Exhibit 17).

From the perspective of workers in the Guohong factory, the picture was mixed. Fairphone commissioned two audits (in August 2013 and April 2014) in the factory and a survey of the 17-member elected council of the worker welfare fund (WWF) in order to assess improvements in welfare within the factory. (A total of 47 people had worked on the Fairphone production line.) The council members were satisfied with being able to represent their colleagues' interest in the worker welfare fund; however, factory workers, including those who had not worked on Fairphone's production line, were dissatisfied with their wages (see Exhibit 18).

FAIRPHONE'S CHALLENGES

Despite the immense pressure of delivering the phone, 2013 had been a successful year for van Abel and the Fairphone staff. They had delivered the fair smartphone to 25,000 customers, generating millions of euros in revenue—beyond the founders' expectations—and started a programme to improve conditions for workers along the mobile phone supply chain. As he took stock of the company's achievement during the 2014 New Year brunch, van Abel knew that the company faced significant challenges ahead. The principal issue for Fairphone was how to achieve its mission of improving the welfare of underrepresented miners and factory workers in the opaque mobile phone supply chain while making a "cool" product for consumers that were removed from the supply chain. Related to this question were two challenges. First, scale. In order to gain leverage with suppliers in the mobile industry, Fairphone needed to place larger orders. "25,000 phones does not get you on the radar of the big players", van Abel said. Indeed, 25,000 phones was a tiny fraction of the 32million smartphones sold in Western Europe in 2013 (see Exhibit 9). This meant that Fairphone needed to reach a larger audience with its message and product. How should the company achieve that goal? For instance, should Fairphone design a functionally, aesthetically superior phone or should it continue licensing Guohong's design?

The second challenge was organisation design. Fairphone had started as a group of young "creatives" talking to the media about fairness in mobile phone supply chains. See Exhibit 10 for a background of Fairphone's employees. In Fairphone's first year of operation, the structure of the company was informal. There were no codified processes for making decisions, no formalised incentive systems or company-wide information technology (IT)

¹⁴ Fairphone – a smartphone for a good conscience (<http://www.dw.de/fairphone-a-smartphone-for-a-good-conscience/a-16544455>)

systems. Recalling how Fairphone paid Guohong for manufacturing the phone, Van Abel said:¹⁵

We [Fairphone] don't have a financial department. It was just me with my bank card and my internet banking, putting the card in the reader, and then finding out you cannot transfer more than €250,000 in one go. Then it was me pushing the button several times because I wasn't able to transfer the money in one batch.

For most of 2013, van Abel had not given much thought to organisation design; he had no time to do so, but he realised the need for an appropriate design with clear functional roles and business processes. Speaking in November 2013, he said:

I think the whole company is being run like an [awareness campaign] project with a deadline, whereas it should be run like a real company...And the reason is that there is so much happening that you can't work on next steps. It is like giving birth and thinking about your next child [at the same time]. You can't do that.

Fairphone needed to attract the right people not only to fulfil those roles, but also fit the values of the company. How then should the organisation be designed in order to achieve its mission? Given the company's mission of making a quality phone and improving social welfare in the mobile phone supply chain, what types of people should the company recruit?

These were the issues on van Abel's mind as he sat down with his team at the 2014 New Year brunch. The Fairphone team wanted a roadmap for the future. Even the ever-active online community had started asking about Fairphone's future. He needed to formulate, communicate and implement a clear strategy to achieve Fairphone's two-fold mission in the mobile phone industry. 2014 promised to be a busy year.

¹⁵ Best, J. (2014). The gadget with a conscience: How Fairphone crowdfunded its way to an industry-changing smartphone. Retrieved September 25, 2014, from *Tech Republic*: <http://www.techrepublic.com/article/the-gadget-with-a-conscience-how-fairphone-crowdfunded-its-way-to-an-industry-changing-smartphone/>

Source: United Nations (<http://www.un.org>)

Exhibit 2—Mining for minerals in the Katanga region, eastern DRC (February 2011)

Left – Artisanal miners (called *creuseurs*) have a meeting with Fairphone team to discuss their needs.

Right – Creuseurs in a mine shaft in Katanga, eastern DRC. To van Abel's surprise, the miners (*creuseurs*) did not complain about the working conditions; they were most concerned with improving their bargaining power vis-à-vis the middlemen (called *negociants*) to whom they sold the ores.



Source: Fairphone

Exhibit 3—Urban mining “mobile bashing” workshops

Left – High school students at urban mining workshop organised by campaign team

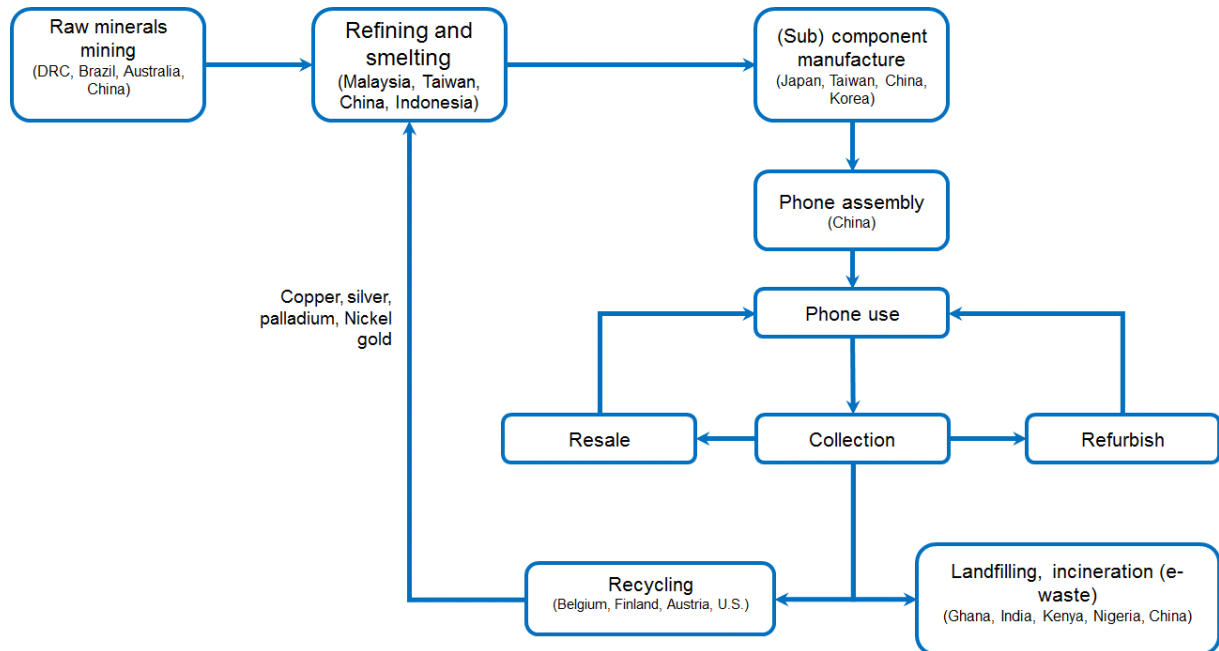
Right – Van Abel lying in a “sea of phones” at the 2011 Lowlands Music Festival. He and the campaign team had built the sea to attract festival goers to the Fairphone campaign



Source: Fairphone

Exhibit 4—the mobile phone is global

Schematic showing the lifecycle of mobile phones from mining to assembly and final disposal



Source: Fairphone; authors' analysis

Exhibit 5—E-waste dump in Agbogbloshie, Ghana

Young child collects electronics waste for sale to middlemen in Agbogbloshie, Ghana



Source: Fairphone

Exhibit 6—Artist's impression of a smartphone designed during the Fairphone awareness campaign

De Shove-It, a phone consisting of separate modules was one of the first designs for a Fairphone in the design challenge (2010)



Source: Fairphone

Exhibit 7—Visit to Kalimbi mine of the conflict-free tin initiative (CFTI) in eastern DRC, February 2013

- a** – Bas van Abel (left) and Prince Jaime de Bourbon Parme (right) inspect a batch of tin ore, Cassiterite.
- b** – The cassiterite from the mines is washed.
- c** – Washed ore is graded
- d** – The tags used to identify bags of cassiterite as they leave the mines for onward transport to smelters.

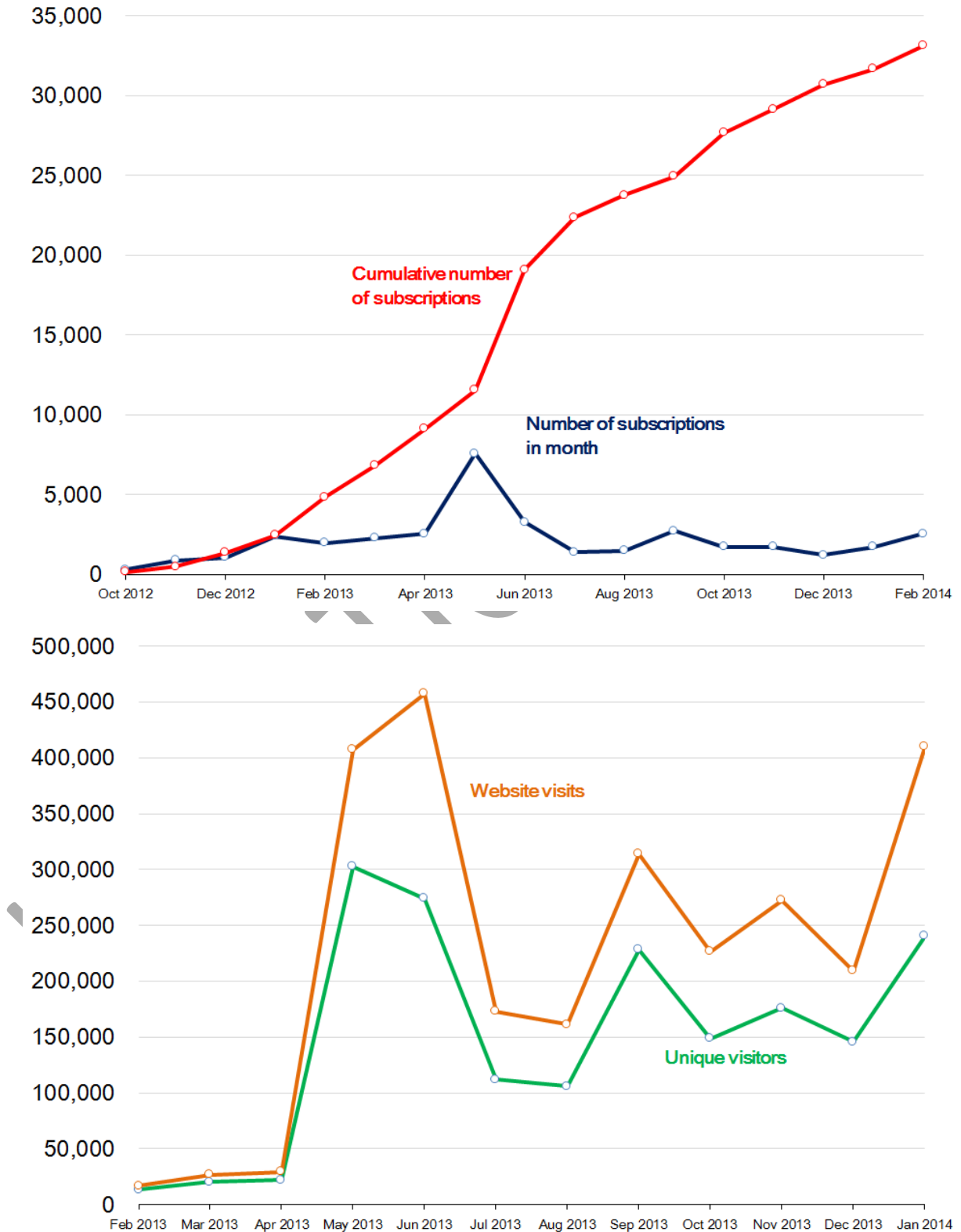


Source: Fairphone

Exhibit 8—A growing community of followers and supporters

Top— Cumulative number of subscribers to Fairphone newsletter (in red); number of new subscribers per month (blue) October 2012–February 2014

Bottom— Number of visits (orange trend) and unique visitors (green trend) per month to Fairphone’s website February 2013 – January 2014



Source: Fairphone

Exhibit 9—An industry dominated by few, large players

Table showing the number of smartphones shipped in Western Europe in the first quarters of 2012 and 2013. Samsung, Apple and Sony command 75% of market share in Q1 2013

	Q1 2013		Q1 2012	
	Unit shipment [millions]	Market share [%]	Unit shipment [millions]	Market share [%]
Samsung	14.3	45	10.9	39
Apple	6.2	20	7.0	25
Sony	3.2	10	1.6	6
LG	2.4	8	0.5	2
Nokia	1.6	5	2.3	8
Others	3.9	12	5.9	20
Total	31.6	100	28.2	100

Source: IDC European Quarterly Mobile Phone Tracker, May 2013 cited on IDC website (<http://www.idc.com/getdoc.jsp?containerId=prUK24197413>)

Exhibit 10—Highly educated, diverse employees. Fairphone employees as at May 2014

Years post-graduation experience	Function. Industry sector	Education
10 – 15	Industrial design management. Product design	M.A. Interaction design
	Engineering management. Mobile communication technology	MEng Electrical engineering; MBA Finance, strategy, entrepreneurship
	Project management. Cultural industries	B.Sc. Cultural sciences
	Administration, entrepreneur. Service sector	B.Sc. Commercial & technical textile engineering
	Public relations & marketing. Various industries	M.A. English literature & international development
5 – 9	Vice president. Apparel	M.Sc. Sustainability leadership
	Lawyer. Legal services	LLM European & international business law; LLM Energy Law
	Sales & marketing. Event management & intermediation	B.Sc. Communication & multimedia
	Administration. Service sector	B.A. History
1 – 4	IT traineeship. Banking	MBA General management
	Production & project management. Book publishing	M.A. Media studies
	Research journalism. Non-profit organisations	M.Sc. International relations; M.A. Journalism & media
	Administrator. International development	M.Sc. Conflict studies
	Sales & marketing. Event management & intermediation	B.Sc. Communication & multimedia
	Production management. Metal recycling	M.Sc. Sustainability management
	Project manager. Advertising	M.A. New media & digital culture
	Sales & marketing. Sharing economy	Completing M.Sc. Psychology
0	N.A.	Recent graduate M.Sc. Industrial design
	N.A.	Recent graduate M.A. Communication
	N.A.	Recent graduate B.Sc. Graphic design
	N.A.	Completing M.Sc. Industrial design
	N.A.	Completing M.Sc. Industrial design
	N.A.	Completing M.Sc. Communication studies
	N.A.	Completing B.Sc. Information technology

Exhibit 11—Smartphone manufacturing process

Before mass production, the smartphone undergoes prototype development, design verification and process verification tests in order to ensure minimal design and process flaws in the final product

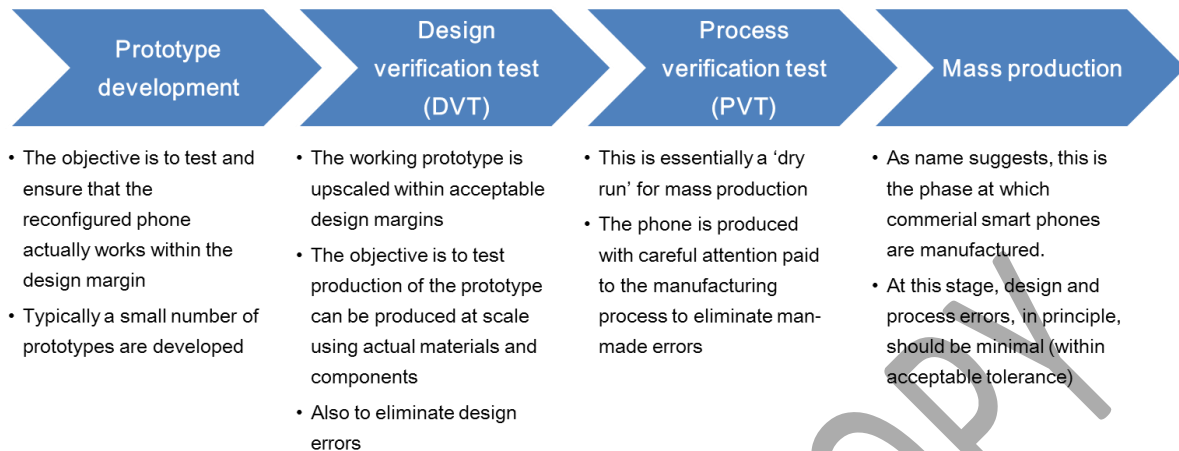


Exhibit 12—Testing and shipping the first fair smartphone

Clockwise from top left

a – Workers test the phone camera.

b – Quality control at the end of the assembly line.

c – Workers on the Guohong factory floor during the design verification test (October – November 2013).

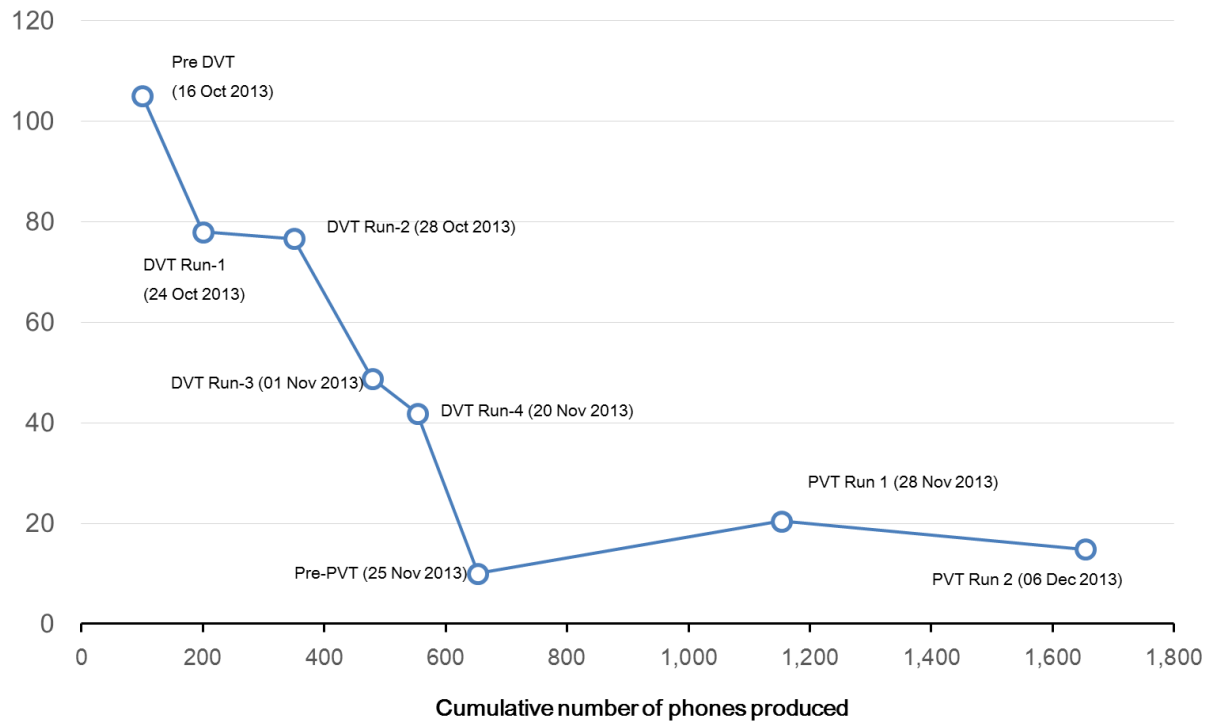
d – Workers weigh the packaged smartphone



Source: Fairphone

Exhibit 13—Quality improvement

Defects per 100 phones in the design verification tests (DVT) and process verification tests (PVT) October–December 2013. Graph shows a downward trend after one pre-DVT, four DVT runs, one pre-PVT and two PVT runs



Source: Fairphone

Exhibit 14—The final product (February 2014)

Source: Fairphone

Exhibit 15—High brand equity among Fairphone end-users

Results of survey on brand equity conducted in March 2014 by Fairphone. Customers ($N = 730$) rated Fairphone brand equity in terms of brand functionality, brand trustworthiness, brand symbolic value, brand pride, brand pricing and brand functionality. Table shows the mean rating of the company along the five dimensions. 1 indicates very low score on dimension and 5 a very high score (maximum).

Scale	Average score (max. 5)	Description
Involvement	2.9	Degree of search and deliberation in buying a product or service
Brand functionality	3.5	Measures quality of product functionality compared to other brands.
Brand pricing	3.7	Measures to what degree brand or product is fairly priced.
Brand pride	4.1	Measure extent to which people feel proud about the brand
Brand symbolic value	4.2	Measure extent to which people are convinced brand fits their personal beliefs.
Brand trustworthiness	4.1	Measures extent to which customers perceive company and people behind it as trustworthy.
Brand loyalty	4.1	Describes attachment that a customer has to a brand.

Source: Fairphone

Exhibit 16—Fairphone ranked highest among 20 electronic brands

Sustainable consumer website, Rank a brand (<http://www.rankabrand.nl/elektronica>) ranked the sustainability performance of 20 electronic brands in 2014 in three thematic areas: climate policy; ecology, and labour. They gave each brand a rating ranging from “A” (company scored higher than 75% on rating criteria) to “E” (brand scored less than 15% on rating criteria). Fairphone, the highest rated brand, was rated “B”.

BRAND	LABEL
-	A
FAIRPHONE	B
Apple NOKIA	C
SONY acer hp SAMSUNG DELL PHILIPS MOTOROLA BlackBerry lenovo TOSHIBA	D
LG ASUS htc ZTE中兴 Nintendo HUAWEI	E

Source: Rank-a-brand Sustainable Electronics Report (2014)

Exhibit 17—Fairphone highly-rated among German civil society organisations

In March 2014, representatives of 16 civil society organisations in Germany rated Fairphone performance on six dimensions: responsible resource extraction; intelligent and sustainable design; environmental protection; transparency; and recycling.

	<i>Average score (max. 5)</i>
Measures for responsible resource extraction	4.6
Measures for intelligent and sustainable design	4.4
Review of environmental protection measures	4.1
Measures of fair production conditions	4.0
Transparency	4.8
Measures to recycling precious materials	4.2
Overall rating of the organisation	4.7

Source: Deutsche Unwelthilfe (http://www.duh.de/uploads/media/DUH_Ergebnisse_Fragebogen_Fairphone.pdf)

Exhibit 18—Perceptions of Fairphone worker welfare fund in Guohong factory

a—Off-site survey of 35 Guohong factory workers, April 2014: How satisfied are you with the following aspects of your work (1—least satisfied; 10—most satisfied.)

	<i>Average score (max. 10)</i>
Training and promotion programme	5.5
Career opportunity and development	4.8
Wages	1.8
Recognition for work	4.5
Capability of affecting work and surroundings	5.3
Opportunities or channels for expressing grievance	4.8
Work-life balance	4.9

b—On-site survey of 17 members of the council for governing council of the worker welfare fund (WWF), September 2014.

	<i>Average score (max. 10)</i>
On a scale of 1–10 (1 meaning very unsatisfied, 10 meaning extremely satisfied), how satisfied are you with <i>changes</i> in the following:	
The opportunities you have to express your views to management	7.6
Your involvement in health & safety at the workplace	8.1
Your involvement in bonus distribution	8.9
Your involvement in setting wages and salary	6.5
Your involvement in future plans for the company	5.3
Your influence in decisions to improve worker welfare in the factory	7.8
The opportunity to represent your fellow workers and their needs and wishes	9.2
On a scale of 1–10 (1 meaning very poor, 10 meaning very good), how do you evaluate the perception of your fellow workers and wider workforce of the worker welfare fund (WWF)	
The WWF nomination and election procedures	8.9
The WWF training sessions	8.3
The WWF worker representatives	8.9
The WWF board	8.8
The WWF project disbursements	8.6
The influence workers had <i>prior</i> to the set-up of the WWF on decisions influencing worker welfare	5.4
The influence workers had <i>after</i> the set-up of WWF on decisions influencing worker welfare	8.3

Source: Fairphone