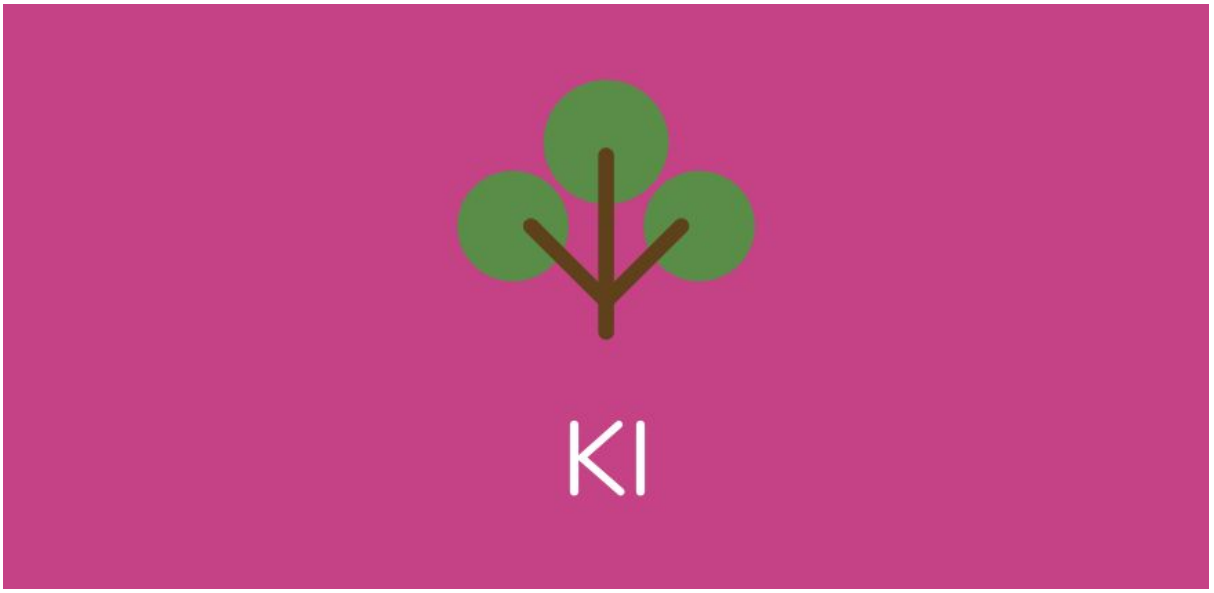

Note of Intent:
Ki as Means to Tackle Climate Change and Climate Justice

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Problem:

As this decade comes to a close, more and more people are recognizing the harmful impacts certain activities have on the environment. However, while driving cars and using coal are often cited as major sources of pollution, people are unaware that daily, seemingly harmless, activities in fact exacerbate global warming. One of the major global polluters today is *fast fashion*. Companies such as H&M or Zara focus only on producing as many clothing collections as possible, resulting in both a waste of natural resources to produce the good and exploitation of human labor. We aim to tackle the question of how to make people realize the detrimental impact fast fashion and the act of constantly buying clothing have on the environment. If people do not recognize their participation in global warming by supporting fast fashion companies, then their mentalities and behaviors will not change and the state of the planet will worsen. Thus, this note of intent will propose a solution to climate change and climate justice.

Fast Fashion is one of the biggest sources of pollution worldwide. Fast fashion received its name from the phenomenon of producing more clothing collections that people buy and discard quickly. Compared with 2000, in 2014 fast fashion sales increased 60% while simultaneously customers threw away their purchases twice as fast. This essentially translates to high production, higher consumption, and higher waste. This is highlighted in the production practices of both Zara and H&M, where they produce 24 and 12-16 respective collections. As consumers are now throwing away their purchases twice as fast when compared to two decades ago, 85% of textiles of all textiles are discarded in landfills annually. Fast fashion also consumes the second-highest amount of water– one cotton shirt requires 700 gallons of water for production. Overall, fast fashion is the culprit behind 10% of all carbon emissions, which will increase to 26% by 2050 if no changes are made.[1]This 10% of emissions is higher than the combination of all international flights and marine shipping.[2] Given this context, it is imperative that we find a solution.

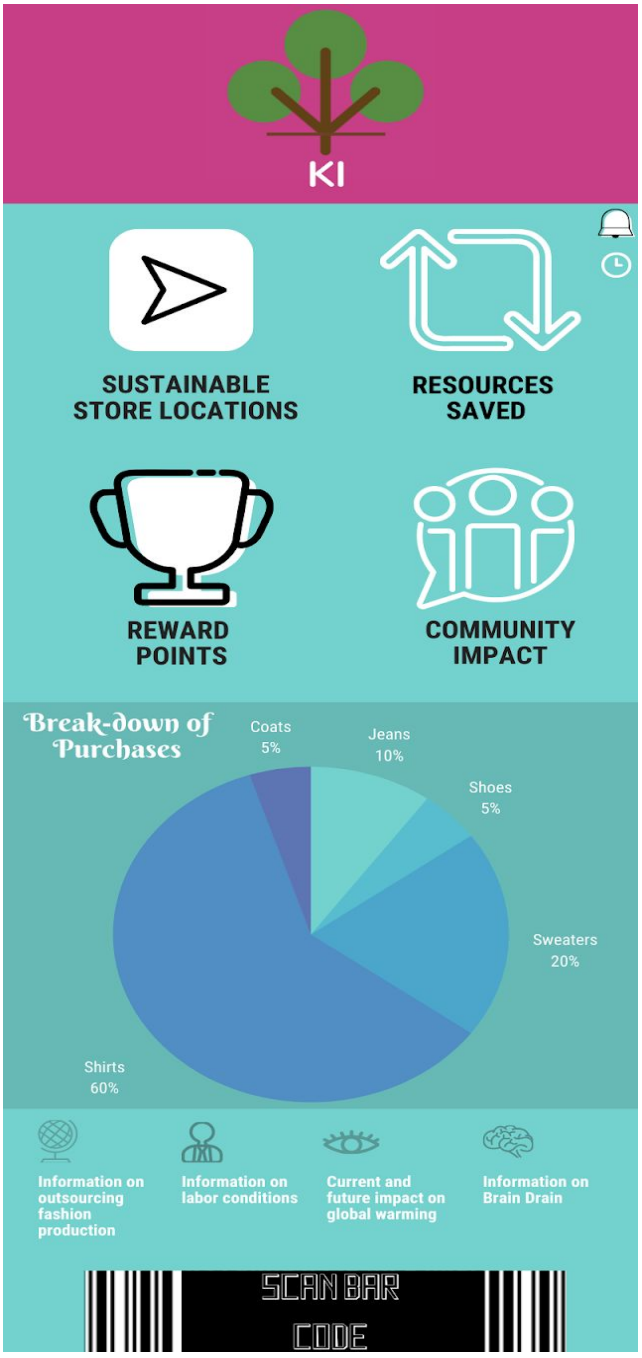
Our Solution:

Faced with this problem, we will create the app "Ki," which focuses completely on informing users of the environmental impacts of their clothes. The name "Ki" comes from Japanese, where it means both "tree" (木), as a representation of nature, and "spirit" or "feelings" (気). Our app raises awareness and creates the feeling of empathy (気) for our waste of natural resources (木). Our logo features the inverted image of 木 as a tree to highlight our mission of helping the planet. Moreover, "Ki" is the pronunciation of the traditional Chinese interpretation of our vital energy, *qi* or *chi*, further strengthening the relationship between nature and energy.

The app functions mostly as a means of information. This app will be downloadable on both the iTunes App store and Google Play. This will allow for all smartphone users to have access to our app. This will be the first app to compare the environmental impact of individual articles of clothing from companies rather than the company as a whole. The main feature is the barcode scanner at the bottom of the homepage of the app. Using this scanner to scan the barcode of any clothing tag will analyze the materials used in production and communicate the environmental impact. For example, polyester is a common component of clothes and is composed of plastic. The energy used to produce polyester requires around three times more carbon emissions than cotton. Moreover, as this is a plastic product, it is not biodegradable and ends up in oceans. As a result, 31% of all plastic pollution in oceans can be traced to plastic textiles like polyester.[3] Moreover, many dyes for polyester and clothes

[1]https://www.businessinsider.fr/us/fast-fashion-environmental-impact-pollution-emissions-waste-water-2019-10
[2]https://www.cbsnews.com/news/earth-day-2019-fashion-industrys-carbon-impact-is-bigger-than-airline-industrys/
[3]https://www.businessinsider.fr/us/fast-fashion-environmental-impact-pollution-emissions-waste-water-2019-10

in general contain toxic chemicals that cause cancer.[4] When faced with this information, the app user will make the decision to not buy the article of clothing.



There are six supplementary functions that our app offers the user. First is the sustainable store locator function. Our company will compile a list of all companies that sell clothing products that are environmentally friendly, either through second-hand or recycled clothing, and create an interactive map. With this map, the app user can see all store locations closest to them and choose to support eco-friendly clothing companies rather than fast fashion chains.

The second function is the resources saved option. After scanning barcodes and opting not to buy the product, the app will track how many resources the user saved and compile a comprehensive list. This will encourage the user to continue to use the app to visually monitor their positive impact on the environment.

Third is the reward points function. Working with our list of sustainable fashion stores, we will incentivize users to shop at these eco-friendly stores by providing reward points for every sustainable purchase. After a certain number of points, the user will receive a redeemable reward at one store of their choosing.

Fourth is the community impact function. This is similar to a chat room where users can leave reviews or recommendations on how to live a more sustainable lifestyle while still remaining fashionable.

The app also includes options to learn more information about outsourcing fashion production, labor conditions, global warming, and the brain drain, a phenomenon that affects developing countries.

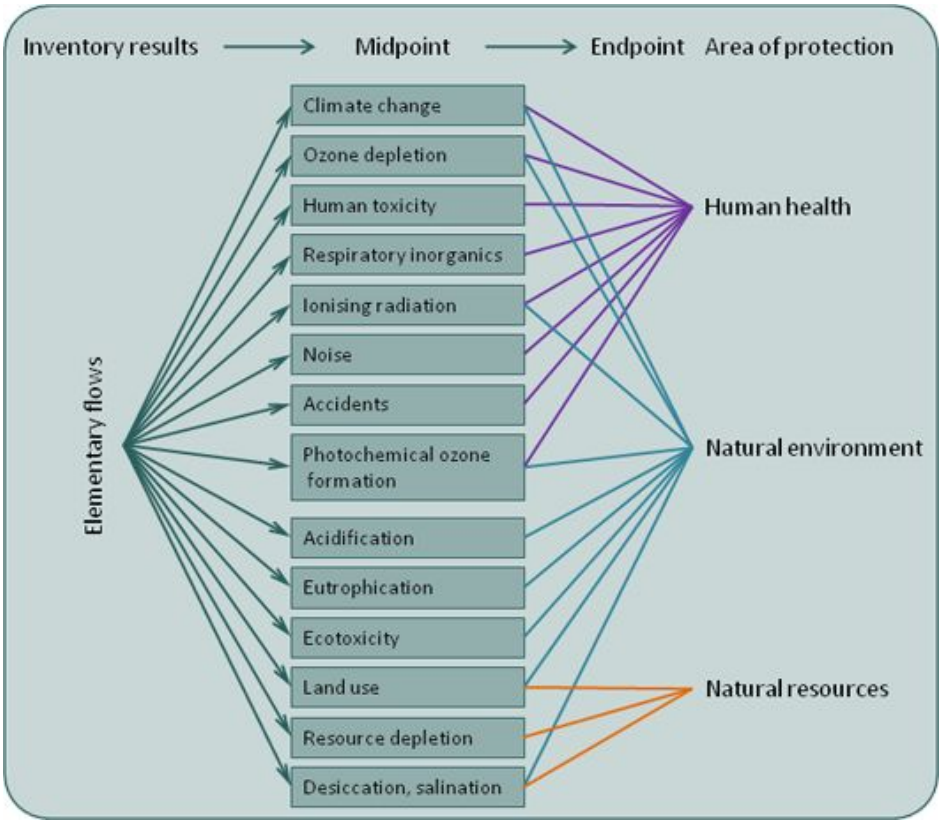
Finally, the app features a pie chart that breaks down the user's purchases by articles of clothing. This will allow the user to recognize when he or she is purchasing too many of one article of clothing and act as a source of motivation to purchase less. With this app, we expect to see a decrease in aggregate consumption of fast fashion and an increase in demand for sustainable clothing options. By supporting sustainable clothing stores, fast fashion companies will either have to change their business model to remain competitive or will be pushed out of the market. Ultimately, this will lead to lower carbon emissions, lower water consumption, and lower plastic pollution of the oceans.

[4]https://www.activesustainability.com/sustainable-life/do-you-know-your-clothes-ecological-and-social-footprint/

Data Acquisition and Analysis for the App:

A product's environmental footprint typically analyzed by completing a Life Cycle Assessment (LSA). As defined by a European Report on Life Cycle Assessment for production and ISO 14040 which has set the world international standard on LCA, LCA can be defined as "the compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle." LCA tries to quantify and aggregate different inflows, such natural materials or water usage, and outflows, such as waste streams, pollution or deposition of residues causing soil or water acidification, to assess the overall environmental impact of a product. It is a blend of software engineering and environmental science.

LCA according to the EU commission:



The first step is to implement a Life Cycle Inventory that encompasses the extraction of "raw" data of the product's impact on its environment, such as CO2 emissions, energy usage, or chemicals ending up into groundwater/soil. The second step consists of compiling all of the data to produce meaningful and comparable figures on the environmental impact a product has. This later phase is the most software and modeling intensive. Complex LCA analysis of textiles and clothes have, for example, integrated the energy and water used during the washing of clothes over the product's entire life into the LCA analysis. According to a European commission technical report on product Environmental footprint analysis, LCA should at minimum take into account:

- Raw material acquisition and pre-processing
- Manufacturing
- Distribution
- Use stage
- End of life (including product, recovery / recycling)

Such a complex analysis has, for example, demonstrated that dyeing was one of the most emitting processes of cloth production or that the thinner the yarn (the lower decitex) was, the more energy and the more CO2 intensive it was for the same amount of yarn produced. As such, the thinner the yarn, the higher the environmental cost of spinning, weaving, and knitting. However, such LCAs are often performed by academics or by expert firms as very resource intensive in terms of software engineering and data collection.

Therefore, with our limited financial resources, we aim at providing a simpler analysis with simpler figures. The bulk of our analysis will focus on the raw material acquisition and pre-processing, while potentially providing some factual figures on the distribution stage's environmental impact, such as the average miles a product has traveled to reach the shop from the factory where it has been produced and the CO2 equivalent it implies.

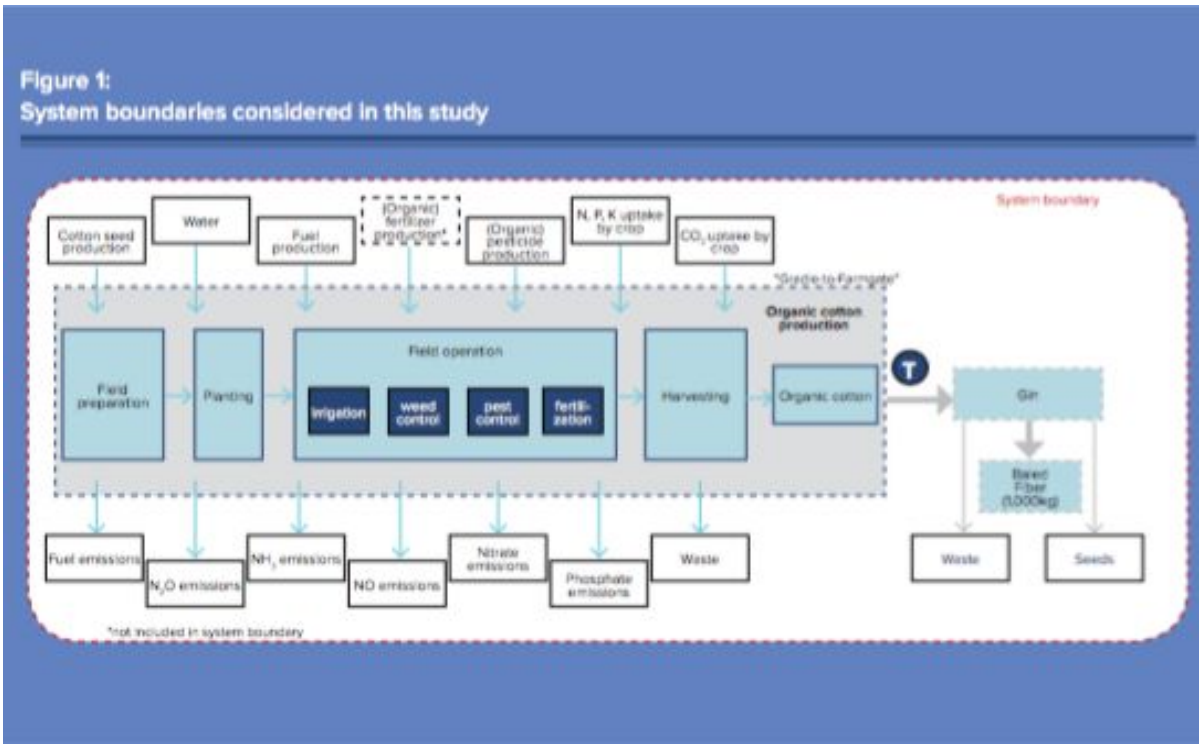
However, brands that have harmful environmental impacts and policies will most likely not agree to cooperate and to give us access to their data. Thus, our major issue will be the data acquisition. To overcome this problem, we will use the European Platform on Life Cycle Assessment that provides an open access free database as well as a free LCA software that enables using and remodeling available data. However, there seems to be plenty of data regarding the industrial, chemical, aeronautical and metallurgic sectors but less on textile manufacturing or cropping environmental impact. This source needs to be further explored but can clearly not be our unique source of data. Another promising path would be to use OpenLCA, a leader in LCA software and databases that provides free LCA software that combines multiple data sources on its platform, including data from the US Department of Agriculture, as well as chargeable and private ones. Some of these databases come from NGOs or governments and are therefore free, others come from expert, specialized companies, and therefore require the purchase of a license costing about one or two thousand euros to get access to their data. One viable option for us is to hire a part-time software engineer or a qualified person and to use openLCA while purchasing one or two licenses in order to get all the needed data.

Another solution would be to partner with Textile Exchange, an NGO that provides data and solutions regarding the environmental footprint of textiles and the best practice solutions in the sector. Their scope ranges from environmental impact starting in the cropping field to distribution networks and so on. Some of their partners included clothing brands such as Nike and HetM, cotton producers and other companies working in the textile industry. In one of their studies, they assessed the environmental impact of organic cotton against standard cotton from the plant growth to the ginning process (cotton transformation into a usable material) (see the diagram below).[5] Their study shows that organic cotton emits 46% less CO2 equivalent than classic cotton, thanks to not using fertilizer, that is highly fossil-fuel intensive, and pesticides. Moreover, it demonstrates that the acidification potential of organic cotton was 30% less than that of classic cotton, and that organic cotton used 96% less blue water (water coming from groundwater or water bodies). Organic cotton uses less blue water mainly due to better soil management that enables the soil to keep humidity while holding more water coming from precipitation, therefore requiring less additional irrigation. It would be great to partner or even to merge with such an NGO that will enable our cheap and reliable access to data and LCA.

[5]The life cycle assessment of organic cotton fiber - a global average (2014). *Textile Exchange.*

Finally, another interesting possibility could be to co-create our app with the Leiden University that is a leading expert in the LCA research and software design/engineering.

Scope of the Textile Exchange study:



Making the App Attractive:

While our app is mainly educational and informative, that does not mean it cannot be fun as well! In order to attract users, we plan to include a little game to make their experience more stimulating.

Essentially, with each product scanned, the users will receive points, encouraging them to use the app on a regular basis. The more times they scan a product, the more points they get. The goal is to collect as many as they can. There would be different levels of Ki usership: basic, silver, golden and diamond, based on the number of points. We are convinced that reaching the different levels would give prestige and a sense of achievement to users. We have also thought about creating a TOP USERS board, where the users with the highest points are listed, and where each user can check his/her position in the list. This would motivate them to compete with each other, and therefore they would focus on collecting points as they scan products.

In order to motivate people to continue using the app on the long-term, we plan to reward them with special deals. To further promote slow fashion and conscious consumer habits, we will seek out partnerships with local boutiques and second-hand shops. After a certain amount of points collected (and each time they enter a new level), we would gift users with coupons that they can later use in our partners' shops. So we not only educate them on the environmental impact that their choices carry, but we will encourage them to avoid fast fashion by steering them towards more ethical ways of buying clothes. These partnerships would benefit both us and the participating shops, and hopefully would create a community around ethical shopping.

Business Model:

Target Customers Base:

Ki is designed to be used by everyone, as we believe everyone should have equal access to information on how to change his or her daily habits to slow global warming down. That being said, our target customer base is the millennial age group. This group is aware of the worsening environmental state of our planet and is, when compared to other age groups, more willing to improve fashion consumption. However, this group does not necessarily have the necessary information on *how* and *what* to change their fashion consumption to. Thus, our app will provide them with the necessary means to make an informed decision that, in line with this age group's tendencies, will shift toward sustainable clothes shopping. Thus, the average Ki user is a consumer aware of the impact his or her consumption has on the world and is willing to change it.

Marketing Plan:

Before the app is finalized and made public, we will start advertising on social media. Similar to how movie trailers alert consumers of an upcoming product, our early marketing will spread awareness of our app. We have decided to focus on social media due to the fact that, according to Nielsen consultancy, about a third of the use time of a smartphone is spent on social media. Our priority will be Facebook and Instagram.

The advantage of advertising on such platforms lies in the highly specific segmentation that they allow to configure. By advertising on social media, we will be able to target our customers very specifically by hobbies and commitment, networks, age, gender, and location. Moreover, as our outlined target base is the millennial age group, we will be able to effectively reach as many members of this generational group as possible. When advertising Ki, we will use *real-time marketing*, which targets our consumer base at the right time. Moreover, we will look at research that highlights the optimal times to post on Instagram.

https://later.com/blog/best-time-to-post-on-instagram/

According to a survey by the French research institute IFOP, 14% of French web users think that advertisements on social media give better images of brands. However, this is contingent on these advertisements making the brand seem more "human." Thus, not only will we focus our marketing on social media, but we will also emphasize humanizing our company and making ourselves relatable to the users. This aligns perfectly with our company values that are integrated into our company name Ki: nature, spirit, and feelings. Furthermore, 19% of French web users reveal that they purchased a product after seeing an advertising on social media. This further strengthens our marketing plan of using social media to encourage downloading our app.

Company Milestones:

Our company's success will first be marked by the number of app downloads we receive. The app market itself is extremely competitive, only 0.1% of Android apps received more than 5 million downloads during one quarter in 2018. The largest percentage of apps, 21.12%, only received 100 to 500 downloads.[6] Therefore, our first major company milestone will be to exceed 500 downloads and distinguish ourselves as an app that is quickly becoming competitive.

Our next marker of success will be successfully creating a collaboration between Ki users and sustainable clothes stores. Once users start to utilize the reward function of the app, they will be encouraged to continue shopping sustainably and be able to purchase items at a discounted rate. Furthermore, this will create a supportive community of eco-friendly clothes shoppers.

These two initial company milestones will allow our app to grow in popularity and prompt more and more people to switch from fast fashion to sustainable fashion. This increase in use leads to the sustainability and longevity of our app.

Industry analysis:

The strength of Ki is that our app answers a very contemporary demand : buying products that are more respectful of the environment. This rising demand for ethics is an opportunity to grow. We are meeting this demand in a unique way, providing an educational, interactive map that reveals the negative environmental impacts of each article of clothing. In this way, we are paving the road for a new market that focuses not only on promoting the buying of environmentally friendly clothes, but also placing access to information above profit to benefit the planet rather than the individual.

However, as our app app answers to a demand and as fast fashion has been highly criticized recently, other competitors are likely to enter the market. For instance, *Good on you* is an app that promotes ethical fashion as well. Yet, it doesn't have the same functionalities as Ki. *Good on you* gives a notation to a brand, on the basis of its impact on the environment, used materials and working conditions. Our app, on the other hand, analyzes each article of clothing individually and does not give a rating– it simply reveals the negative environmental impact of the materials used in that specific article. Thus, it allows the user to make their own subjective decision to not buy certain clothes based on objective information. It also allows the user to recognize the unsustainable fast fashion trends of companies such as H&M and Zara without being explicitly told that these companies are unsustainable. *Yuka* is a similar app, however, it focuses on the health benefits and drawbacks of individual food and cosmetic items. Therefore, *Yuka* is not a direct competitor in our market. This could change if they evolve to incorporate fashion in their app, but we will work to maintain our position of market leader through the use of entry barriers and strong user base.

Financial Plan:

To finance our app, we will try to get innovation grants. Organizations such as French Tech or BPI France proposes funds for Start Ups. We can get up to €30,000. We will also find angel investors, such as in association that fights for a more ethical fashion. Finally, we will use self-financing.

The application should cost between €10,000 and €15,000. We will need to implement a research on the factories and the workers' conditions for the brand we are reviewing. The most important spending will be made upstream for all the content of the app.

[6] https://www.statista.com/statistics/269884/android-app-downloads/

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