

Public summary bachelor assignment

Title

Designing the Eco Travel Cup

Author

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Topic

Designing a sustainable and reusable travel cup.

Background information

The assignment to design a sustainable reusable travel cup was formulated by the company Eco Travel Cup. Eco Travel Cup is a startup that wants to fight the use of disposable products which causes a lot of unnecessary waste and litter. Using a reusable cup instead of a disposable one reduces the carbon emitted per coffee significantly. (Howell, 2018)

Relevance

Already a lot of reusable travel cups are available on the market. One might say that getting another reusable travel cup on the market does not make much sense. The next heading tells about a bottle and cup combination which increases the added value because that does not exist on the market.

Approach

In order to achieve this objective, a central research question was formulated, which is as follows: 'what is the perfect Eco Travel Cup?'. There were a number of requirements established by the company, but these requirements needed to be elaborated and specified more. After a set of requirements were established, solutions needed to be found for these demands. One of the solutions was the combination of a water bottle and a travel cup. It was decided that this would increase the added value of the Eco Travel Cup significantly and was therefore adopted and set as a requirement. This was a big change in direction, but from the solutions that had been found to satisfy the requirements, multiple concepts could be formed.

After a process of much deletion and detailing, two concepts remained. To realize these concepts, a few more steps needed to be taken. For instance, the materials needed to be chosen, the packaging had to be designed, a cost estimation had to be made and more aspects which required some attention.

Results

After the detailing the two remaining concepts took their final form. At least as far as they will be developed for this bachelor assignment. The final concepts are concept 2 and concept 3b and they both consist out of a bottle and a travel cup that fit together in some way. For concept 2 the bottle fits in the cup for easy transportation, as for concept 3b the bottle screws on top of the cup. All parts are made out of PE and the bottle is transparent. The colors that are used are dark, therefore stains that could develop are less visible.

Conclusions and recommendations

The two concepts talked about in the results have a lot in common, but there are a few critical differences in how they are used. On the one side, concept 2 can be stored compactly for traveling, and if a hot drink is required the cup can be taken of the bottle to use as a separate item, then after

use, the cup can be put back together with the bottle for traveling, and therefore the bottle stays usable at all times. On the other side, Concept 3b works essentially the same, but instead of fitting the cup over the bottle, the bottle fits on top of the cup. Therefore, it is less compact, but the outside of the bottle does not get dirty, with, for example, coffee residue, because the inside of the used cup does not touch the outside of the bottle, such as in concept 2. These differences are brought to light better at the scenarios.

Concept 2 and concept 3b are the two candidates for the Eco Travel Cup. In order to find out which of these concepts will eventually become their final choice, a test series should be developed which subsequently can be extensively tested. During these tests, features such as the drinking quality, on which some testing has already been done, could be further tested with a bigger group of participants. Also, the durability and rigidity should be tested. Wall thickness can play a big part in this durability. Not much thought has gone into this part, other than looking at competing products. Before production, the optimal wall thickness should be found.

After the first products are brought on the market and turn out to be a success, different sizes could be developed to accommodate the needs for more people. Also, a collection of cups could be brought out to the market, such as the Ecoffee cup, which is an already existing cup made in collaboration with the Van Gogh museum. (Ecoffee cup, 2021)

References

Ecoffee cup. (2021). *shop*. Opgehaald van Ecoffee cup: <https://ecoffeecup.com/shop/>

Howell, L. (2018). *Reusable cups - the figures*. Opgehaald van https://issuu.com/hopesolutionservices/docs/reusable_cups_figures__1_