



Project Greenolution

Group 6. Greenolution

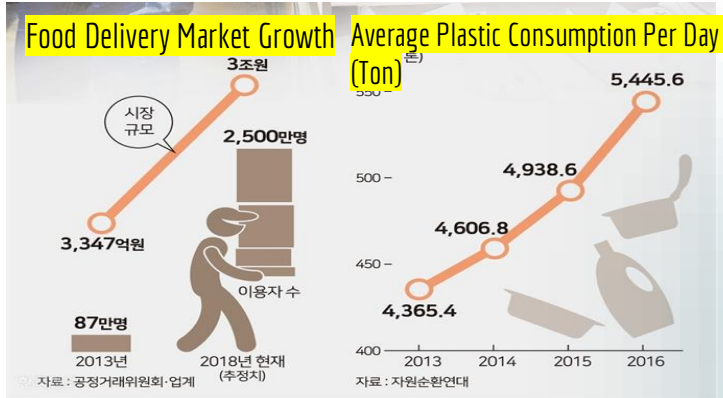


Problem

Statement:

“Korean food delivery app users, who tend to eat at home more often due to COVID-19, **need** a service that entices waste minimization **because** the current service lacks in providing eco-friendly alternatives, and the users feel guilty about their unsustainable consumption causing adverse effect on the planet and its inhabitant.”

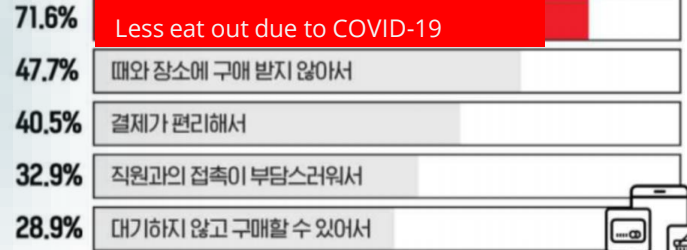
Food Delivery Market Trend:



Why has untact consumption increased recently?

최근 언택트 소비가 증가했다 71.1%

최근 언택트 소비가 증가한 원인 (복수응답)

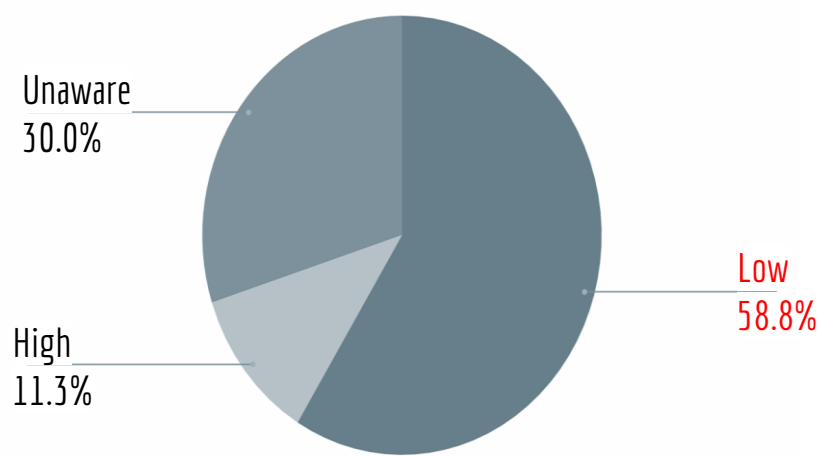


주: 성인남녀 3,280명 설문조사, Saramin

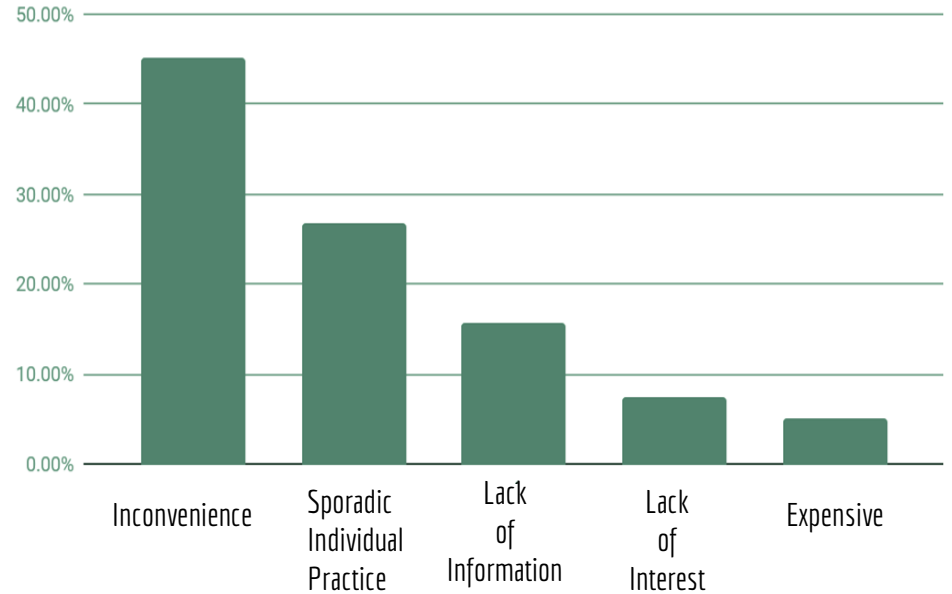
자료: <https://blog.naver.com/welcomebank1/221932449084>

Empathize:

How would you rate your participation in sustainable consumption?



Why the low practice?



Define Problem: Pre-Delivery

← 주문하기
← 배달 주문 결제

로그인 시 안심번호 사용가능 자세히

요청사항

가게 사장님께

예) 건과류 빼주세요, 덜 맵게 해주세요

다음에도 사용 부탁드립니다

라이더님께

조심히 안전사고 예방해주세요

다음에도 사용 부탁드립니다

일회용품 수거, 포크 안 주셔도 돼요 🌱
일회용품 줄이기 함께 시작해요

1 주문자 정보 주소변경

인천광역시 연수구 송도동 187 인천글로벌캠퍼스
[도로명] 송도문화로 119-8 인천글로벌캠퍼스

[안전배달] 문 앞에 놓고, 전화주세요!

일회용품 수거, 젓가락은 안 쓸게요!
꼭 필요하지 않다면 체크해 주세요. 일회용품 줄이기 어렵지 않아요!

요청사항을 선택하세요. ▾

결제수단

배민페이 결제 시 배민포인트 적립 ②

위 내용에 모두 동의합니다

20,000원 결제하기

2 결제 수단 선택

여기서결제 앱에서 미리 결제

추가선택

2찬반찬+조미김 +1,000원

라면사리 추가 +1,000원

당면사리 추가 +1,500원

두부사리 추가 +1,500원

만두사리 추가 +4,000원

스팸사리 추가 +4,000원

스팸햄배기 추가 +8,000원

비엔나사리 추가 +3,000원

고기 추가 +4,000원

공기밥 추가 +1,000원

계란후라이 추가 +1,000원

사이드메뉴 추가선택

계란말이 추가 +4,000원

떡갈비 추가 +4,000원

계란찜 추가 +3,000원

비엔나구이 추가 +3,000원

맛보기육회 +4,000원

음료 추가선택

콜라 500ml 추가 음료 +1,500원

사이다 500ml 추가 +1,500원

물 500ml 추가 +1,000원

-Easy to be missed

-Default setting encourages passiveness

-No minus options

Define Problem: Post-Delivery



-Unnecessary food waste
-Tedious trash disposal



Problem

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Main SDGs Target:

Substantially reduce waste generation through prevention, reduction, recycling and reuse

12.5 ●



● SDG 11.6

Reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

● SDG 12.3

Halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

● SDG 12.8

Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

● K-SDGs 12.9

Build a system for plastic virtuous cycle, increase the use of recycled plastics to build a virtuous cycle and prevent leakage of plastic to the environment through the development of eco-friendly materials.



<주요 유통업체의 전년동월 대비 월별 매출 증감률 추이(2019.10 ~2020.4)>



자료 : 산업통상자원부(2020.5.29.), "2020년 4월 주요 유통업체 매출 동향 보도자료".

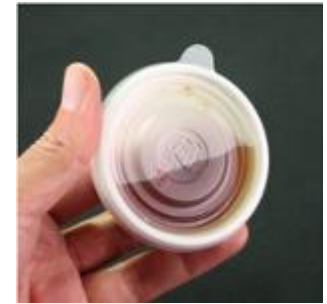
Storyboard #1 - Increase in delivery app usage resulting in increased use of single-use materials and waste

[Problems]

- Usually people in 20s and 30s , and single households
- Because they want to be safe from pandemic and eat “easily & conveniently”
- This new trend of COVID-19 helped Korean food delivery app attract more users.
- More one-time use items & excessive, lavishing packaging.

[Solution]

- People needs to decrease the amount of plastic they use in containers or single use items.
- Ministry of Environment ROK plans to strictly control the one time use items in their 2030 waste management plan..



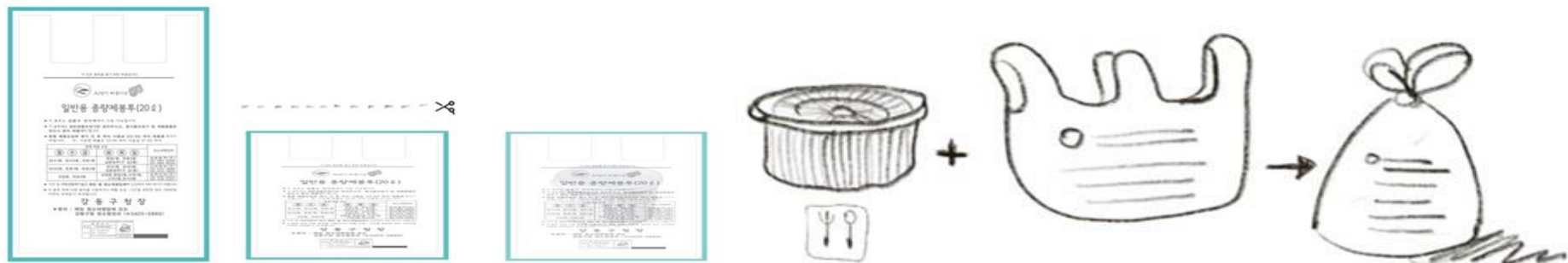
Story board #2 - changing the app settings from a plus to a minus

[Problem]

- Currently the default setting for the options such as plastic utensils or side dishes are already marked.
- App user must manually un-mark the checkbox to minimalize waste, adding an additional 'click' to the triple-click quota. Thus users often skip this stage.

[Solution]

- App users can decide whether they want soup or not as a minus option.
- They must decide side dishes, soup, one-time use spoon and chopsticks.
- The new spoons will include holes on the hand-grip part to use less plastic.
- Biodegradable containers



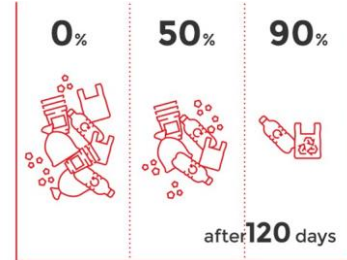
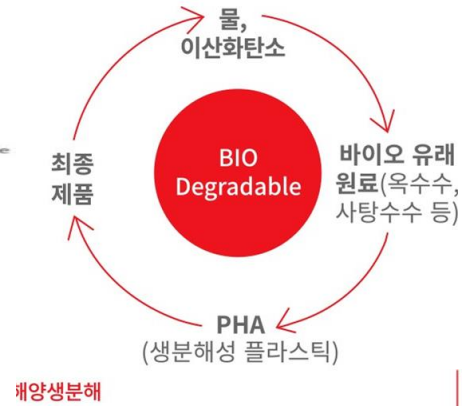
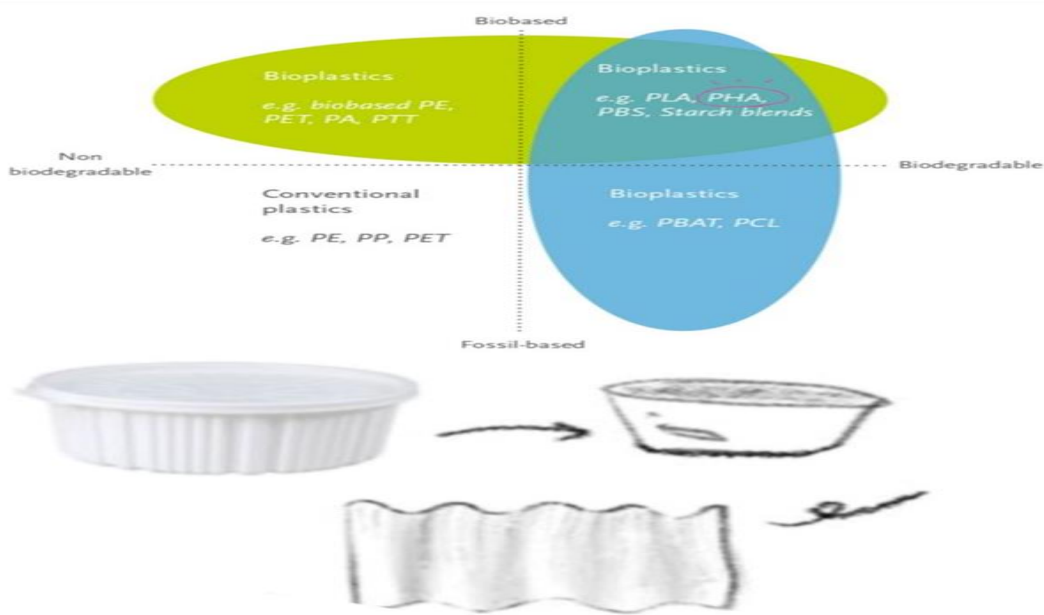
Story board #3 - Replacing the external plastic bag with a government issued trash bag

Problem

- Plastic containers containing the food is wrapped in another extra layer of plastic bags which results in additional excess plastic waste.
- Surrounding plastic bag for delivery is to wrap up everything while the food is getting delivered.

Solution,

- we can still use the plastic bags for our needs and remember that our activity creates more waste. (raising up awareness)
- As a part of their order payment, customers can pay for their second plastic bag surrounding the food.
- 10L standard trash bag will be used for disposing of the trash.



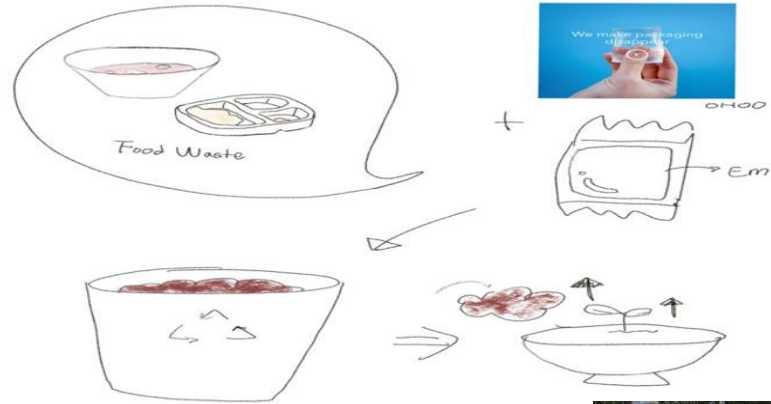
Story board #4 - minimizing changing the food container in its material and the amount of it.

[Problem]

- Plastics are from fossil fuels and contribute to carbon emission and non-biodegradable plastics stay in nature over 100years.
- Current food container has the wavy bottom instead of flat one and requires more plastic to be used.

[Solution]

- Simpler , less plastic design.
- Less plastic amount to be used. PP or PE to both **bio-based** and **biodegradable** plastics in packaging- PHA, PLA, PBS, Starch Blend, etc...
- For example, " CJ bio PHA" developed by CJ Cheiljedang.



Story board #5 - degrading food waste from delivery food

[Problem]

- Food waste occurs from eating delivery food.
- As the waste is organic, it easily goes to decay, generating bad smells. Also, it is difficult to use it for other purposes due to its high moisture and high salinity.

[Solution]

- After putting the remaining delivery food in a specific container, mix the activated EM and disassemble it before it decomposes.
- To let people know about it, an event could be held to deliver EM in containers such as ooho for a certain period.
- Make your own organic fertilizer for city plants

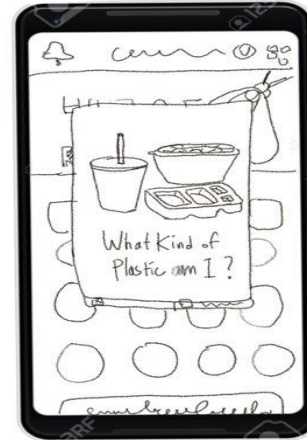
[Problem]

- Due to lack of education, people often separate garbage in improper ways.
- Lack of government policy to entice companies to use bio-based and biodegradable plastic, and to allow consumers to separate and discharge these plastics in the right way.

[Solution]

- Using banner advertisement on the delivery web, promote proper ways to separate delivery packagings. Use an event to join the promotion, giving small incentive when they join the education.
- Develop environmental certification for bio-based and/or biodegradable plastics and let them discharged separately. Europe has already developed standard for compostable plastics, and from 2023, separation discharge of biodegradable plastics is mandatory. Biodegradability, Disintegrability, absence of negative effects, and absence of harmful substances can be used as a criterion.

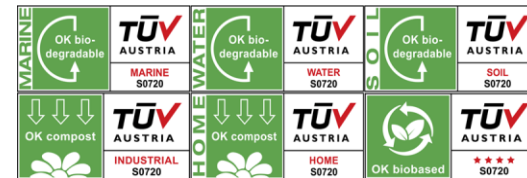
Promote the different marks by
Collaborating with Companies
to merge the brand logo with
the Eco-marks



App Promotion Event



compostable



Story board #6 - external informce

Conclusion

It is important to bring participation from as many as to move for a sustainable society through autonomous efforts before the system or law forces efforts to reduce waste to both producers and consumers. From this point of view, we tried to diagnose the waste problems that occur in the entire delivery process and find some easy but effective solutions.