

quit printing receipts .quit printing receipts. quit

Optimizing resource efficiency

by digitizing receipt processes

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the challenge

Over 300 billion receipts are printed annually in the United States. To put it into perspective, if you had a receipt for the impact receipts had on the environment, it would look something like this:

Number of trees cut for the production of thermal paper (per annum)	10 million
Volume of water consumed for the production of thermal paper (gallons per annum)	21 billion
Mass of waste produced as a cause of printing and producing receipts (pounds per annum)	302 million
Volume of CO2 emissions released due to receipts (pounds per annum)	12 billion (equivalent to that of a million cars)
% of receipts with harmful BPA or BPS, chemicals that are linked to fetal development issues, reproductive impairment and type 2 diabetes	93

Total:

significant impact on the ecosystem

However, the problem is not limited to the expenditure of natural resources, but extends to the drastic increase in consumerism, powered by impulsivity and inefficiency in purchasing decisions.

5.6

billion consumers to be expected by 2030, 2x the number measured in 2017





number of Earths required to support resource consumption for the growing population by 2030



78

(and counting) billion tons of resources extracted from Earth so far 11

million tons of trash produced per day

90

percent of purchased goods trashed within the first 6 months in the United States

an idea of the future

While enforcing brute force re-X strategies and investing in emerging technologies that support upcycling materials, increasing the life-span of a product, or developing sustainable methods to develop clean energy are effective top-down strategies, our rate of consumption of resources continues to surpass the rate at which we conserve, preserve, protect resources. Tackling this problem involves instilling values and practices that promote conscious resource expenditure from an individual level. While materials last a finite time, tools that empower people to be conscious, sustainable and mindful consumers are building blocks for an optimistic future.

reimagine a future where you could...



digitally store receipts, proofs of payment, invoices and other forms of transactions on a virtual wallet app on a smartphone



read data from stored receipts
to gain insights on individual
item purchases to optimize
resource consumption, manage
current inventory and suggest
future purchases



receive advisory solutions that encourage you to make economic and environmentally conscious purchasing decisions upon learning consumer requirements and habits



integrate sustainable consumer behavior, mindfulness and conscious expenditure of resources

how it works







Bread 20%

Bread 10%

Base 10%

Pasta 10%

Postor 20%

An overview of specific food items purchased and consumed

You

30
20
10

January February March April May June
ms A user's consumption of eggs over time

4

Your Real Time Carbon Footprint Is: 200 CO2e, 10.2% reduction from November 19th 2023

Make a transaction via tap-to-pay services.

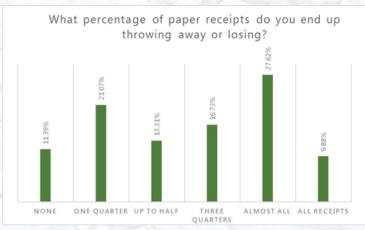
A digital wallet add-on stores receipt items on the app. Transaction is recorded under daily expenses; overview shows expenditure habits. App provides analytics on the consumer trends and suggestions on predicted expenditure. AI/ML models
recommend items
to purchase based
on consumer
behavior.

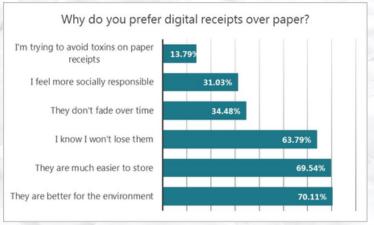
User applies ecoconscious spending suggestions.

implementation and feasibility

Virtual wallets, powered by near field communication (NFC), are commonly used by fast-food chains and stores as a marketing tool to drive traffic and incentivize consumers to participate in rewards systems. Other applications include storage of airplane boarding passes to facilitate secure boarding procedures. A one-time download app and a simple tap-to-store your receipt system not only makes this platform accessible and user-friendly, but completely eliminates the process of printing and storing receipts. With virtually no effort, the user is a tap away from making eco-conscious decisions consistently and reliably.

scalability and collateral impact





Printing receipts is both traditional and archaic. More importantly, it almost never gets used for its primary purpose: to keep account of your expenditure. Now, it's not only important how much you spend, but how much of what you spend on gets consumed sustainably and how much you actually need. With more than 41% of people throwing away almost all of their paper receipts, and 70% of people with an eager acceptance for options that promote environmental sustainability, there is a strong need to revolutionize transaction keeping and resource expenditure. By downloading a single application that utilizes NFC technology, you can read, store and comprehend receipts, be mindful of future resource expenditure, save money and reduce irresponsible consumerism.



challenges and future directions



Mapping an increase in consumption over an interval doesn't necessarily imply wastage of resources. The logistical problems with assuming so leads to an incomplete and ignorant portrayal of responsible or irresponsible consumerism



Ideas that shape human behavior have to be bold, but cannot be imposing, manipulating or guilt-inducing. A sense of trust and togetherness are key to fostering a community of individuals who care



Records of personal expenditure are private, protected and sensitive information. Paramount importance will be placed on transparency and consent for the storage and analysis of expenditure and transaction history

Future directions include developing a working minimal viable product with basic functionality, whilst simulating test scenarios, evaluating the effectiveness of the application through customer discovery

Acknowledgements and Bibliography

https://docs.google.com/document/d/liOTEJp5jNRjNNclPNwi3_nKsC7iyofO6HuXAfBFlC5U/edit?usp=sharing