Team Conductors

Assignments – 6

Barath Dharshan – CS23I1005

Bhadresh – CS23I1014

Aditya Lokesh – CS23I1029

Harith – CS23I1027

Prasanna Kumar – CS23B1011

Exercise 6 (SNAC analysis):

Sno.	Stakeholders	Needs	Alterable	Constraints
S1	S1.1) Native People S1.2) Non-Native People	Comfortable Safe Fast Travel Cleanliness Ease of Ticket Route Information Space for Luggage Cheap Fares Clear Schedule Information Good Infrastructure (Bus + Bus Stop) Better Access to Stations and buses Assistance Multi-Lingual Signage	How arrival is communicated How ticket is issued How changes are given	Budget Location Language Crowd (could be for conductor as well – context of vending tickets) Space on the bus (could be for conductor as well – context of vending tickets) Frequency of buses
S2	Conductor (extra)	Better Denomination System Efficient Ticket issuing	Better Payment Methods (UPI) Ticket Verification System	Manual Ticket Vending (Technology) Noise (shout/ whistle to notify arrival)
S3	Driver(extra)	Best Route Tracker Comfortable Driving Seat	Route Navigation Alerts (Traffic and Accidents) Ergonomic Seating	Infrastructure of Bus and Road Safety/ Traffic Regulations Schedule for bus arrivals

Points marked in blue are the missing elements from the Discovery Matrix(Missing Stakeholders, Alterable, Needs and Constraints)

Stakeholders and their Needs:

1) Native People:

a) Comfortable traveling experience
b) Fast and Efficient Travel
c) Good Infrastructure(Bus and Bus Stop)
d) Affordable Prices

2) Non-Native People:

a) Assistance on Travel Routes
b) Multilingual Support
c) Clear Bus Stop Arrival Announcements

3) Conductors:

a) Efficient Ticketing Process
b) Modern Payment Methods(UPI)
c) Clear Communication/Announcements Mechanisms

4) Drivers:

a) Real-Time Route Information(Delays, Accidents)
b) Navigation System
c) Comfortable Work Environment

Alterable:

1) Passengers(Native and Non-Native):

a) Better way to get Denominations(Change)
b) Ticketing System
c) Multilingual Communication of Bus Stop Arrivals

2) Conductors:

a) Modern Payment Methods like UPI
b) Ticket Verification system, to identify which all passengers are yet to get a ticket.

3) Drivers:

a) Real-time route Navigation system which will tell them the ideal path after analyzing delays and Accidents in the current path.
b) Ergonomic Seats

Constraints:

1) ## Passengers:
   a) Frequency of the Buses
   b) Language the passenger speaks
   c) Space in the bus
2) ## Conductors:
   a) Crowd inside the bus
   b) Manual Ticketing System
   c) Noises
3) ## Drivers:
   a) Infrastructure of the bus
   b) Traffic and Safety Regulation
   c) Schedule of the buses

Conclusion:

Passengers:

1)Native Person:

Native people mostly tend to look for a smooth and efficient way to get to their location as they are familiar with their environment.

2)Non-Native People:

Non-Native people might not know the most efficient path or route to reach their location and will have a hard time communicating with others, so they will look for a Multilingual or a language-neutral piece of information that will help. Additionally, they might need assistance in knowing when their Bus Stop has arrived as they might not know when the Stop name is being called out.

3)Conductors:

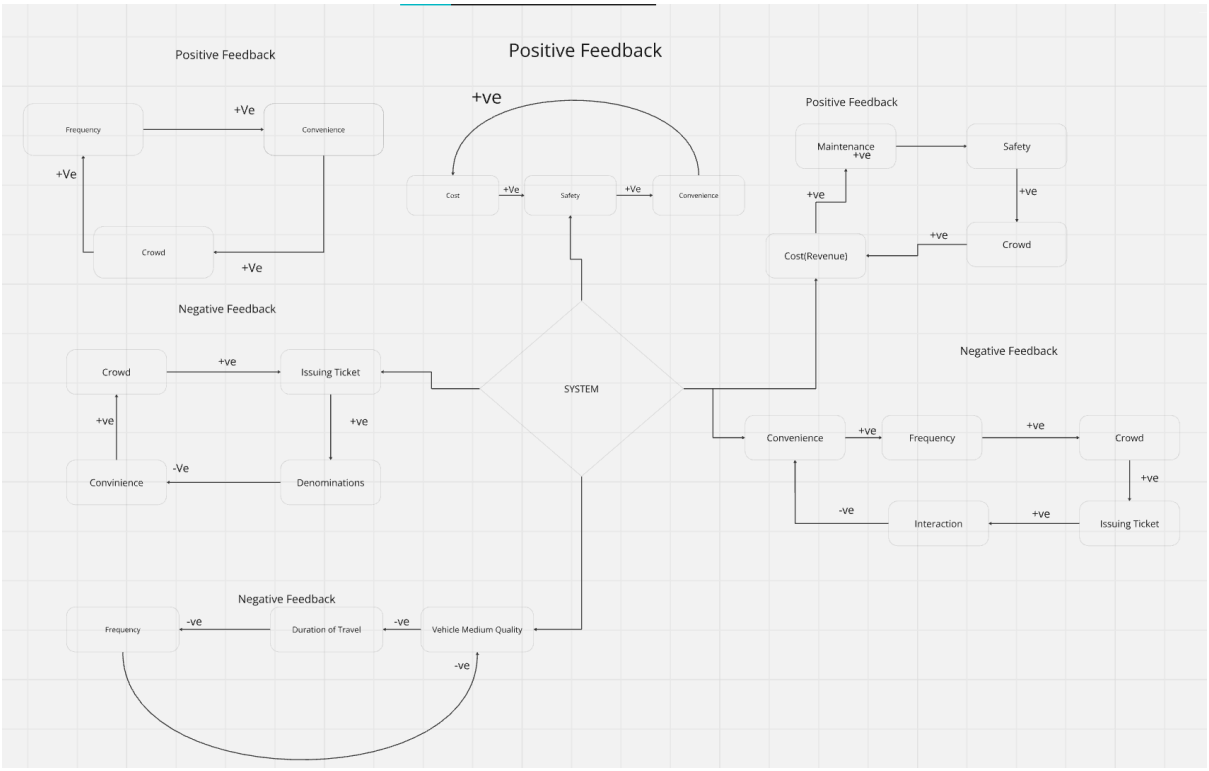
Conductors look for an efficient system to issue tickets to the passengers and additionally, they might need a new way to identify who has purchased the tickets in the bus, as with the current methods its hard to identify in a crowded bus. Conductors also have to manage crowd, and they have to work around the constraints of the bus infrastructure and size.

4) Drivers:

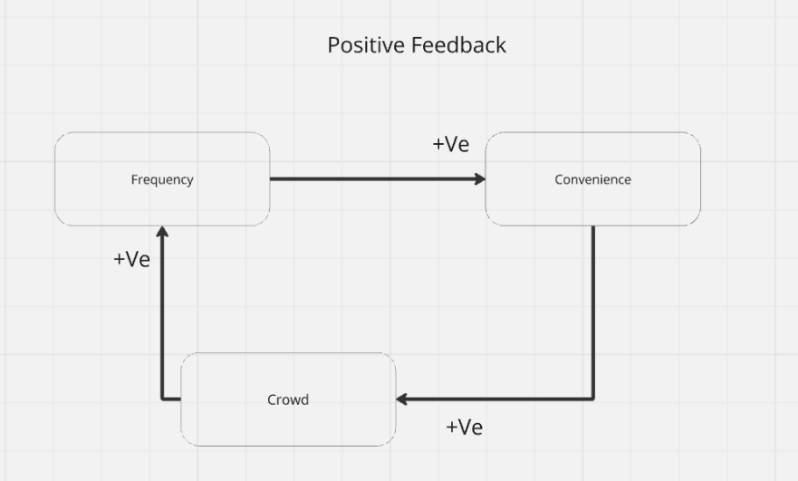
Drivers look for the most efficient path to get to their next bus stop without any additional delays coming from traffic or any other distractions like accidents in the road, they might need a real time navigation system which will notify them the efficient path after analysing delays and if there is any accident on the current road which they are taking. They also abide by Traffic and Safety rules which is the constraint.

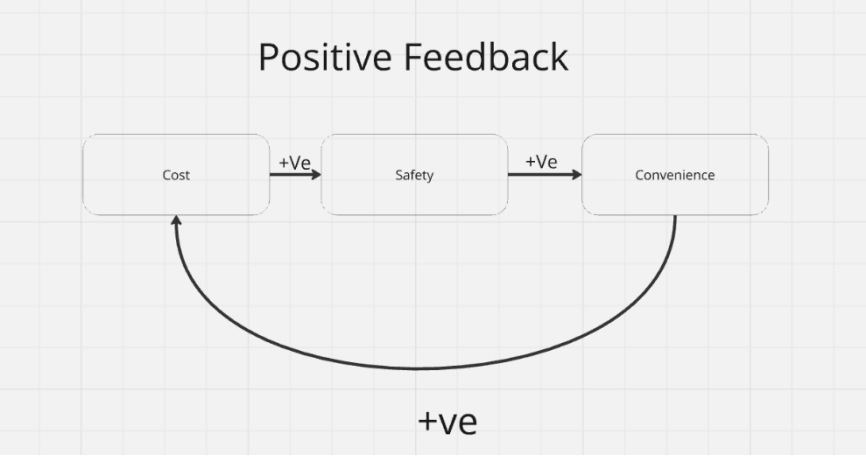
Exercise 7 (Feedback Loops):

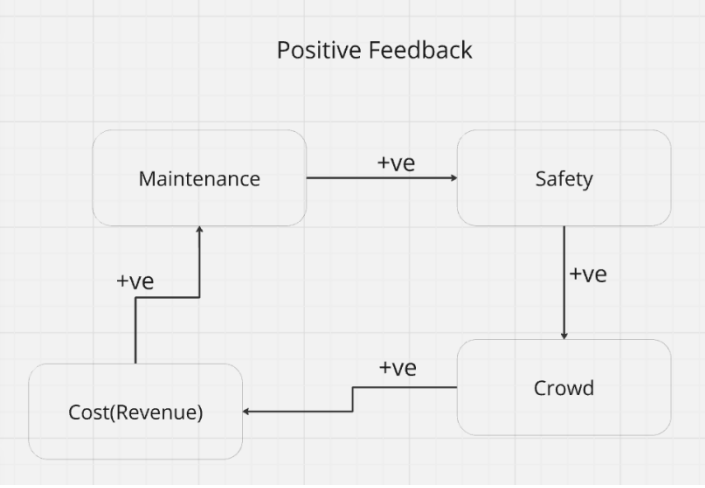
Feedback loops in our System:



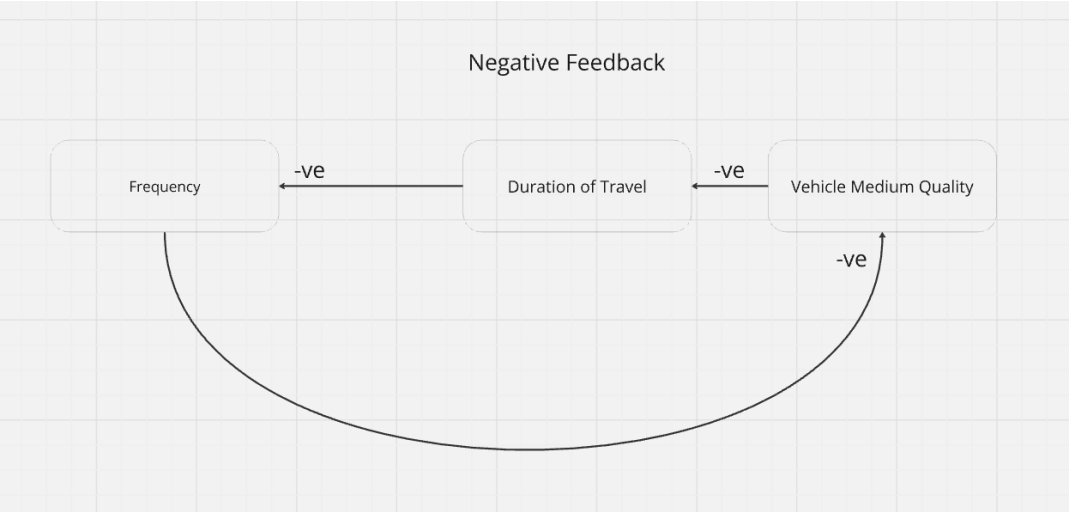
Feedback Loops that might Destabilize our System (Positive Feedback Loops):

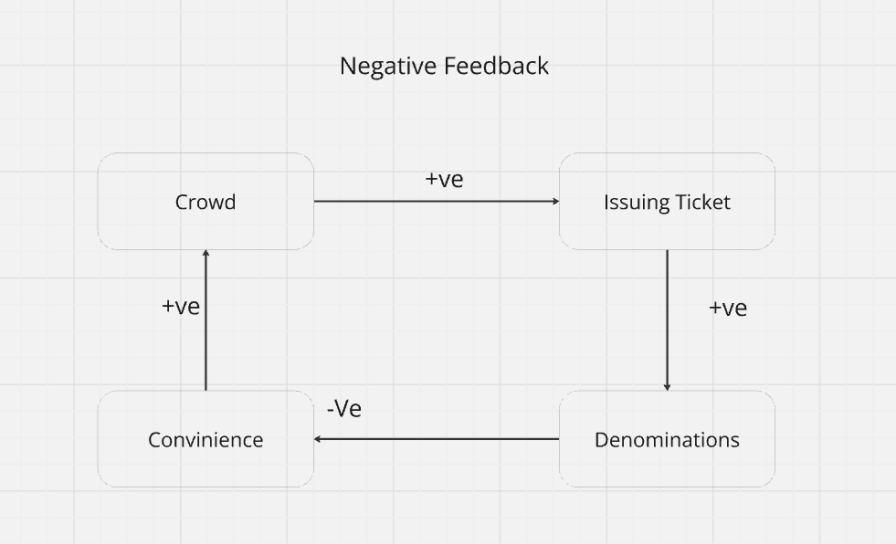


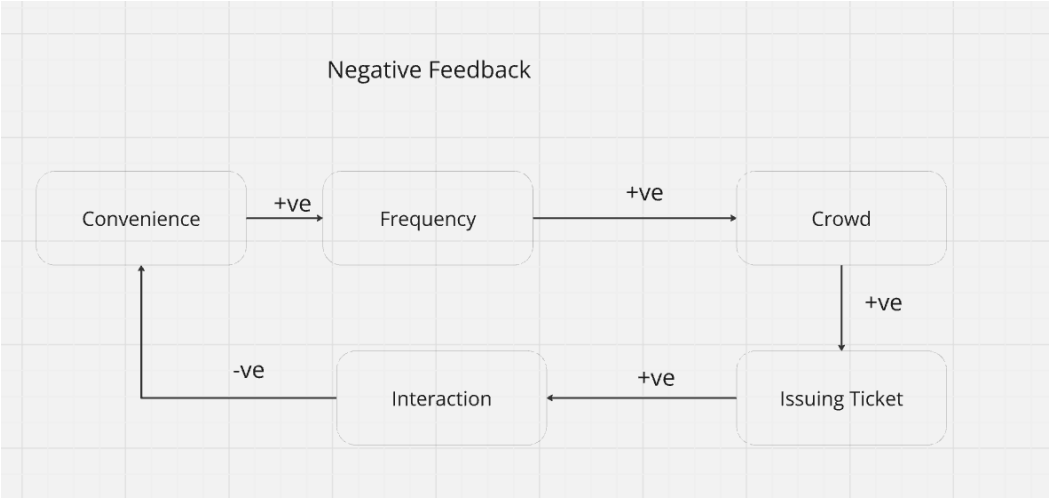




Feedback loops that keep the system stable (Negative Feedback loops):







Conclusion:

From the above feedback loops, we can see that convenience is one of the crucial nodes, if we modify any other nodes which is interconnected to convenience it will affect the whole system.

Even though we have positive feedback loops which could destabilize the system, we have an equal amount of negative loops which stabilize the system.

Convenience is also heavily influenced by language which so happens to be our problem.