



SMART CITY PARKING

Group 4 – Technology Entrepreneurship

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INTRODUCTION

Street parking in a city environment can be a stressful experience for the driver, having to either pay a large sum to park in a high-rise car park or roam the streets looking for an opening to park their car. On average commuters spend 15mins looking for parking every day and 30% of all traffic congestion in urban areas is caused by drivers looking for a parking space.

Councils make upwards of €8 million euro per annum from parking services and €1 million from parking fines of which 60% are estimated to go unpaid, the cost of installing and maintaining 100 parking meters is €600k per annum and the annual cost of running the city's paper parking meter system is €200k. This profit is reduced by factoring in the cost of traffic warden labor, environmental costs due to traffic congestion and paper based systems so the final profit is considerably lower.

To bring car parking into the modern age, our smart car parking system will place sensors in designated parking zones which will indicate if the space is occupied by a vehicle or not. Drivers will use a mobile application to reserve their desired parking space on their way into the city making for a stress-free parking experience. This same application will be used by traffic wardens to identify illegal parking and increasing their efficiency.

Illegal parking in reserved spaces will result in the traffic warden being notified that someone is parked in a space even though no one has paid for the space. Allowing them to move to that location and issue a fine. If someone is parked in someone else's reserved space, they can report this to the traffic system and the warden will be notified and go to issue the fine.

This will all be controlled by a networked system providing valuable metrics to council offices to improve city planning and traffic congestion.

With this system, it is projected that revenue from parking fines will increase with automated systems notifying traffic wardens and, due to this automation, freeing up some wardens to patrol suburban, usually unpatrolled, areas. Furthermore, environmental savings resulting from a reduction in traffic congestion and litter from a paperless system will reduce costs and potentially increase tourism revenue resulting from a more modern and clean city.

BUSINESS MODEL CANVAS

CUSTOMER SEGMENTS

- Organisational
 - The City and county councils will be the primary customers for this system as they will be responsible for implementing the physical infrastructure the system depends on.
- Personal
 - Drivers
 - Tourists
 - Local Businesses

ORGANISATIONAL CUSTOMER SEGMENT

VALUE PROPOSITIONS

- Optimisation
 - Improving traffic congestion. ⅓ of inner-city traffic is caused by drivers looking for parking.
 - Insights into parking and traffic patterns will be valuable to city planners increasing the efficiency of future solutions.
- Management
 - Increased efficiency of inner city parking management allows for easier management of areas without smart sensors as it will free up traffic wardens time.
 - Ability to monitor parking spaces and gain valuable metrics over time to allow for more efficient city planning.
- Automation
 - Parking is managed automatically
 - Illegal parking can be monitored remotely and parking wardens can be automatically notified of violations.
- Revenue
 - Increased revenue from high rate of reported parking violations both from automated “Smart” sources and increased suburban patrols.
 - Increase profile of the city as a modern destination will potentially result in an increase in tourism.
 - Paperless system reduced need for refuse collection and disposal.
 - Raises the profile of the city for being progressive and environmentally friendly resulting in interest from businesses and developers.
- Environmental
 - Paper parking discs/Tickets are outdated and contribute to litter
 - Environmental benefits resulting from paperless system and reduced traffic congestion.

CUSTOMER RELATIONSHIPS

- Automated Services
 - For the council, the system will automate the city's parking enforcement system.
- Paperless
 - Reduced production of parking disks.

KEY PARTNERS

- Council
 - The City and county councils will be the primary customers for this system as they will be responsible for implementing the physical infrastructure the system depends on.
- Sensor Suppliers
 - They will be required to manufacture the sensors which are integral to our business model.
- Cloud Providers
 - A large networked application will require cloud resources to be quickly scaled and cost efficient.

KEY ACTIVITIES

- Problem Solving
 - This system will solve the problem of traffic congestion and illegal parking.
- Production
 - Application development
 - Manufacture of the sensors and related equipment.
- Installation
 - The installation of the sensors, smart parking systems and notification signs.
- Maintenance
 - The maintenance of the sensors and smart parking systems

KEY RESOURCES

- Technology
 - Software
 - Servers
- Physical
 - Sensors
 - Parking signs
- Labor
 - Installation and maintenance of the system
 - Traffic wardens
- Intellectual
 - Copyright
 - Data Protection
- Financial
 - Licensing

CHANNELS

As this system will need to be accepted and implemented by a large organisational body, the communication with this customer will be done in a face to face presentation with minor communication over phone and email.

- Face to Face
- Telephone
- Email

COST STRUCTURE

- Value Driven
 - As this system will involve a large initial investment by the council, the value of the system will be to be demonstrated along with projected future savings.
- Technology
 - The cost of the sensors, servers and software development.
- Labor
 - Physical costs will be incurred to install the sensors and parking signs.

REVENUE STREAMS

- Licensing
- Upgrading

PERSONAL CUSTOMER SEGMENT

VALUE PROPOSITIONS

- Convenience
 - The ability to pay for parking remotely
 - Less aggravation as spaces can be reserved
 - No need to find a shop that sells parking disks as parking can be paid for remotely
 - -43% Less time spent looking for parking
 - -30% Less parking-related vehicle miles traveled
 - Ability for businesses to reserve nearby parking for clients as needed
- Cost
 - Cheaper parking vs high rise alternative
- Health
 - Less aggravation as spaces can be reserved
- Environmental
 - Reduced emissions from traffic congestion
 - Reduced need for paper based parking tickets

CUSTOMER RELATIONSHIPS

- Self-Services
 - Users can manage their own parking.
- Booking Service
 - Allows users to reserve parking spaces remotely on their phone.

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 - The City and county councils will be the primary customers for this system as they will be responsible for implementing the physical infrastructure the system depends on.
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- Cloud Providers
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KEY ACTIVITIES

- Problem Solving
- Education
- Platform

KEY RESOURCES

- Technology
 - Software application
- Intellectual
 - Data protection
- Financial
 - Booking fee

CHANNELS

We will reach this customer by advertising and educating online and via on street parking signs

- Website
- App
- Parking Signs

COST STRUCTURE

- Value Driven
 - The primary selling point of this system will be the value it brings to the end user in the form of convenience and time saving.
- Technology
 - Developing the app software that the user will use.

REVENUE STREAMS

- Booking Fee (%)

CONCLUSION