IS2112

e-Business Strategy

RailPal

Group 02

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PROBLEM IDENTIFIED

The problem that we have chosen to be addressed could be elaborated as an aggregate of unpleasant situations that most of us encounter in our day to day lives. Being more specific on this, it comes under the domain of public transportation in Sri Lanka, within which the railway department plays a major role. Having demarcated the boundaries of the problem, we will now dig in deeper into the context of the problem.

The basic problem that we are trying to address is the irregularities that exist in the arrival times of trains in Sri Lanka. Almost everyone who has travelled by train has for sure come across a situation of this sort. There are two main problematic instances that may arise due to such irregularities in arrival times. First one would be the situation where passengers miss their train. The second would be the hassle that passengers have to go through to delays of arrival times. Apart from these two there can also be instances where trains get cancelled. All of these would ultimately end up resulting in many unpleasant situations such as having to arrive at the workplaces, schools or any other important occasion late.

Though these could be cited as the major components of the problem there are many other issues that passengers come across on a daily basis when travelling by train. One such issue is the hassle they have to go through in purchasing tickets at the counter of the railway station. The long queues that are created during rush hours at these counters have made travelling by train a cumbersome experience for many of the passengers. It should also be noted that there are issues specific to passengers for whom train is not the most familiar mode of transportation. Some such issues are finding out the closest railway station and getting down at the right station.

There is enough evidence to prove the seriousness of this problem from the student population of our own university, as for many of them train is the major mode of transportation and they experience all the issues mentioned above on a daily basis. The results of the survey that we have carried on this segment would give you clear insight on this matter.

As trains are a major mode transportation used by Sri Lankans our team considers this as a major issue that needs to be addressed and solving this problem would ultimately strengthen many aspects related to the development of the country, as convenient travelling and timely arrivals would increase the efficiency of a community irrespective of the occupation or activity they are engaged in.

SURVEY RESULTS

Do you travel by train?

47 responses

- Yes.
- No.

25.5%

74.5%
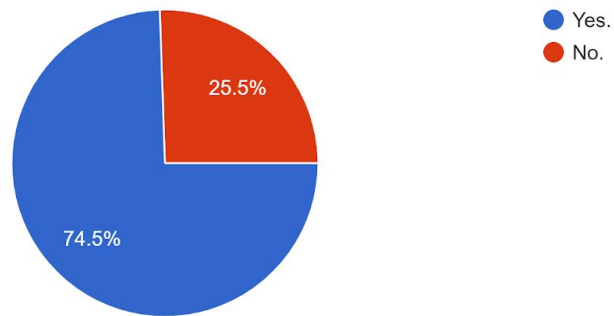
Have you missed any train?

47 responses

- Yes
- No

31.9%

68.1%
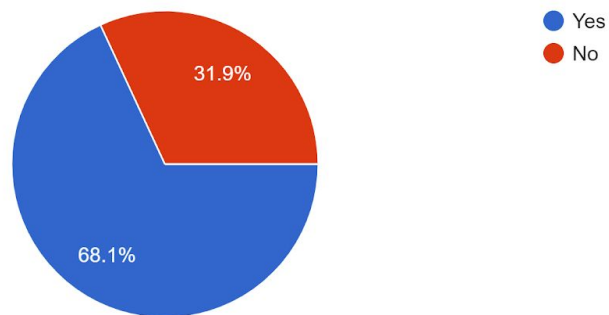
What are the difficulties that you faced when catching a train in Sri Lanka?

26 responses

late trains

Waste time

Time delay

Not on time

Time issues

Wait many times to cache it, because it didn't arrive scheduled time

Not running according to the time table

They do not arrive on time

Accurate arrival time
Which platform the train is arriving

Knowing the exact time that it would reach a particular statiom

The train never arrives as per mentioned in schedule.

Traffic,

Not knowing the exact time (train delays)

Getting on

Time problems and crowd problems

Dosen't know the right time

There is no timeless

Hard to reach to some stations quickly

They do not arrive on time

Accurate arrival time
Which platform the train is arriving

time delays

welawata enne ne ena welawa danne ne

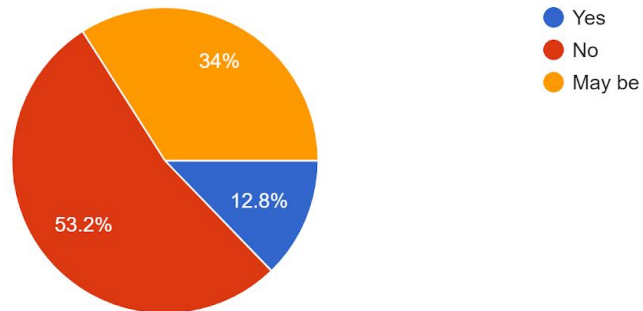not correct arrival ana depature time

Slow ticket issueing

Senaga

No way to know where the train is currently

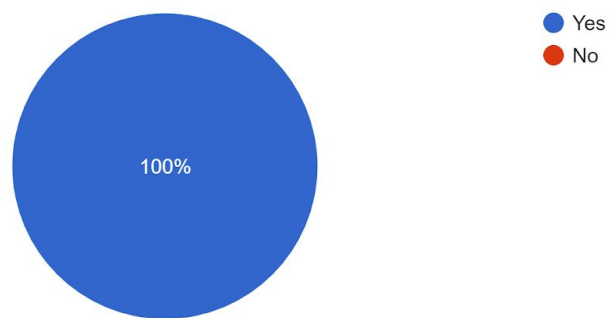Are you satisfied with the currently available mobile applications which related to train service in Sri Lanka?

47 responses

- Yes
- No
- May be

34%

12.8%

53.2%

Do you use a smart phone?

47 responses

- Yes
- No

100%

SOLUTION

As for the issues we have personally identified by observing and after analyzing the results of the survey conducted by us, we have come up with a mobile application to overcome most of these issues.

Why a mobile app?

Because in the modern context, everyone is having a mobile phone. Also, as for the results of the survey, it proves further that the solution would reach a majority of the citizens, having it developed as a mobile application.

Issues the suggested mobile app going to address

As in the above "Problem Identified" section, the biggest issue in using trains as a transportation service is that they usually get late than the scheduled time or even worse, get cancelled. So our mobile app mainly target in solving this issue by providing users :

1. Facility to view train schedules
2. Get updated on a specific train on a particular day (Get notified on cancellations and delays in real time)

Apart from these, the suggested mobile app is going to have the following additional features as well.

- **Real time train tracking (for specified trains via notifications)**

  Users will be able to track the location of specific train(s) real-time. Based on the current location of the train, users will get notified periodically (Either at scheduled time period or by station arrivals)

- **Tickets reservation and Seat booking (For first class and second class)**

  App will allow the users to reserve tickets without having to come to the train station. Also, for first and second classes, seat reservations will also be possible via the app and get a QR code upon successful reservations which then can be used to verify the reservations at train stations

- **Suggest the nearest train station location to get a specific train**

  The location service of the mobile phone will be used and then the train's current location is checked against that. After calculating the distance in between and time, the app will suggest the user for the nearest train station in order to catch the specified train and will also provide the user with the shortest path to arrive at the train station from the user's current location via the integrated google map API

SWOT Analysis

This section focuses on the SWOT analysis carried out for 'RailPal' by identifying its strengths , weaknesses , opportunities and threats in order to evaluate its competitive position and to develop strategic planning. It assesses the internal and external factors that are favourable or unfavourable to achieving the objectives of the app 'RailPal' .

Strengths

Firsthand insights and experiences could be collected from university students who are using the Train to commute on a daily basis to and from the university, therefore collecting the information in order to develop the app 'RailPal' would be easier, cheaper, faster and much more accurate. This same group of students could be used in order to get the exact requirements of train passengers.

To a certain extent, there is readily available information for trains such as train schedules on the internet hence obtaining that information would be easy as well.

Weaknesses

One of the main weaknesses that the team would have is not having sufficient technical knowledge or exposure to code and develop an app of such magnitude. Due to this reason there could be a huge time that would be consumed to learn and build the app with all the functions and facilities.

Initial project funding for hosting and others would be out of the pocket of the team members if any sponsors are not found. If an income generating method is not adopted in the long run, continuity of the app would be difficult.

Opportunities

To develop the app 'RailPal', already existing APIs can be used thus it acts as an opportunity in developing this app.

As 'RailPal' would be a solution for millions around Sri Lanka and there is no other app that provides these solutions, if this is understood by the Ministry of Transportation it could be a huge leverage for the team to obtain approval, grants and other benefits.

Details about train rides (Notices, Delays, Accidents, Strikes etc.) is a huge concern of commuters, thus it would be easy to find users to download the app which gives us a huge opportunity to earn through ad revenue.

As we can see, even though there are many trains in Sri Lanka, mostly in the peak hours the public transportation would be extremely crowded, 'RailPal' could be used to analyze the data such as the weekly or monthly usage of trains and to provide a solution to minimize the overcrowding of trains through proper resource allocation.

One of the biggest opportunities that the app would have is, if the Train details and other requirements work accurately this could be updated to the buses as well and could provide solutions to the entire public transportation in Lanka. This could in a big way build the audience for the app and help many more millions in the country.

<u>Threats</u>

Another main difficulty would be collecting information from the relevant authorities and obtaining the approval. Since this project would be a national level project which would be related entirely to one arm of transportation (Train) in Sri Lanka the Government and the Transportation Ministry will be highly cautious in the actions and the information they give out.

Legal issues will be the biggest unfavorable external factor in developing this app as the data collected from the legal authorities should be kept confidential and secured and the information given out by this app should be right and real-time as well. Otherwise it will raise legal issues as it will affect millions of Sri Lankans.

PEST Analysis

PEST analysis is a powerful used to assess the environment around a business. In this context we are going to look at how the political, economic, socio-cultural and technological environments affect the idea of the RailPal.

<u>Political</u>

In this view we look at how the political changes would affect the success of the implementation or the sustainability of RailPal. Currently a parliamentary election is due to be held in about two months, and there is a possibility of the current regime changing, considering the past presidential election held. If so, this could bring about changes in the current policies and laws of the government. Also when considering the Sri Lankan context we can identify that the train system is a fully government owned and run industry therefore, any change in the government would directly affect this suggested idea of RailPal. An example would be where the government restricts the information that is publicly available and we have resort to another method of obtaining the information. Another area we could consider is where the current president has started implementing systems to areas of inefficient government departments to boost performance. If the government comes up with a similar application that would become more attractive to the public than RailPal.

<u>Economic</u>

The economic environment mainly looks at the fluctuations of the interest rates, inflation, exchange rates and performance of the economy. During the past few years Sri Lankan economy has had many fluctuations. With change of the new regime in the near future changes could take place with rest to ticket prices, inflation of the country, interest rates etc. As RailPal needs hosting space in order to publish and make the application available to all users, a hosting fee needs to be paid and this amount would be subjected to any changes in interest rates or inflation fluctuations. Since the train system is used by a large proportion of low to moderate income earners, the government could make decisions that would positively impact their life styles thus increasing the demand for an application like RailPal.

Socio-cultural

In this section we look at how the population growth, the demographics, the literacy levels, the social and cultural values of the individuals etc. For an idea like RailPal to be successful socio-cultural aspects are very much important as this needs to meet the requirements of the end users. The first factor that would affect would be, non-smart phone users are unable to use this as RailPal is an application that will be available only in smart phone app stores. There is a large proportion of the senior generation that use the train system and are non-smart phone users. This particular group of individuals will not become potential customers to RailPal. Also the general smartphone literacy would be needed in order to use the application. Therefore the literacy levels of the individuals, is a factor to consider. Providing the application in trilingual would be the added advantage for RailPal as Sri Lanka has a multicultural population. Also Sri Lanka has a high literacy level of around 92%. When considering the demographics, there is a high concentration of population in main cities such as Colombo, Kandy etc. The usage of this application RailPal would be high in these areas as the traffic is also high and would provide the users of the advantage of using this application. The demographic changes needs to be monitored to identify new areas of rising/falling demand for RailPal or to identify any new trends in the society that might affect RailPal.

Technological

Technology is a fast moving industry which connects everything in the world. Being able to change with this and adapt the new technologies in order to provide the customers with the best at first would be the key to success. Currently the available technology is sufficient to implement the functionalities proposed. But we do need to keep an eye on the new innovative technologies that might come up in the future as those need to be adopted to RailPal if necessary in order to sustain in the industry. Also there is a mixture of android and IOS users, and RailPal needs to support both platforms in order to be usable by any smart phone user.

INDUSTRY ANALYSIS

This section goes on to discuss the results of the industry analysis undertaken by our group for our product RailPal using the model of Porter's five forces. This will give an overview on the external forces that are acting on our business idea and it will also give some idea on the magnitude of those forces and also the rationale behind each of our assumptions. Each force is evaluated separately below.

Threat of New Entrants

According to the analysis we have carried out the threat of new entrants can be said to be quite high. There are several reasons behind this conclusion. As we have mentioned previous sections of this report building an application of this sort would not require a vast infrastructure unlike in most of the other industries. Thus infrastructure would not stand as a barrier for a new entrant to capture the market. When considering the process of developing the application the initial cost is significantly low compared to other businesses and there are already existing APIs which can be made use of. All of these factors show that any party with a sound technical knowledge in this area could easily enter the market with less hassle.To overcome this force RailPal will adopt several mechanisms, the main one being the strategic alliance established with the government in creating the app. It would be a difficult task for a new entrant to interrupt such an alliance and hence the force is neutralized. The other being the differentiation offered by RailPal. Currently there is no other mobile that offers the same set of features and this would act as a defensive mechanism to mitigate this force.

Power of Buyers

Although there is a similar application which is used at stations to track the current location of a particular train, currently there is no such mobile application which could be used by passengers with all these functionalities that we have mentioned. Thus there is less space for a customer to bargain on the features or the quality product or the prices that are set for premium features of the app as they have no alternative to resort to which would offer this level of convenience. For all the above reasons it could be said that the bargaining power of buyers is quite low in this scenario.

Power of Suppliers

Unlike in other industries the raw materials used by the software industry are often not physical material but some services which would help in building the application and making it available via the World Wide Web. In the context of RailPal hosting service providers can be cited as suppliers and it is evident that there exists plenty of entities which provide hosting services, therefore the bargaining power of suppliers is quite low.

Threat of Substitutes

When considering other alternatives which could be utilized to overcome the issues identified at the beginning of this document, it is clear that there is no such option which would provide the same level of convenience but there exists an online service provided by the Sri Lanka Railways department which allows citizens to view the train schedules by entering the stations of the starting point and the destination and also the date. There are many who make use of this service therefore it is clear that to some extent there exists a threat of substitutes therefore the this force can be said to be moderate in this case. Product differentiation can be given as the strategy that needs to be adopted in this case as well. The survey that was conducted by our group provides proof that the passengers are not satisfied with the service that is given by any other alternative. Thus we can RailPal can overcome this force by optimizing the application with more features that are required by the customer.

Competitive Rivalry

As mentioned earlier currently there exists no other mobile application that has all the features offered by RailPal integrated, But there are plenty of other applications that are available for free for both android and IOS which are currently used by our target market segment. Some such applications are "Train Finder" and "SLRailway 4+". But it should be noted that none of these applications provide the same level of convenience or quality of service offered by RailPal. Thus this force could be taken as moderate for this scenario.

E-Business Model

RailPal is an application which provides functionalities which would make travelling by train more convenient related to the customer (end user). There will be no intermediate groups or individuals who will add value to the service.

Therefore the e-business model that will fit RailPal is Direct to Customer.
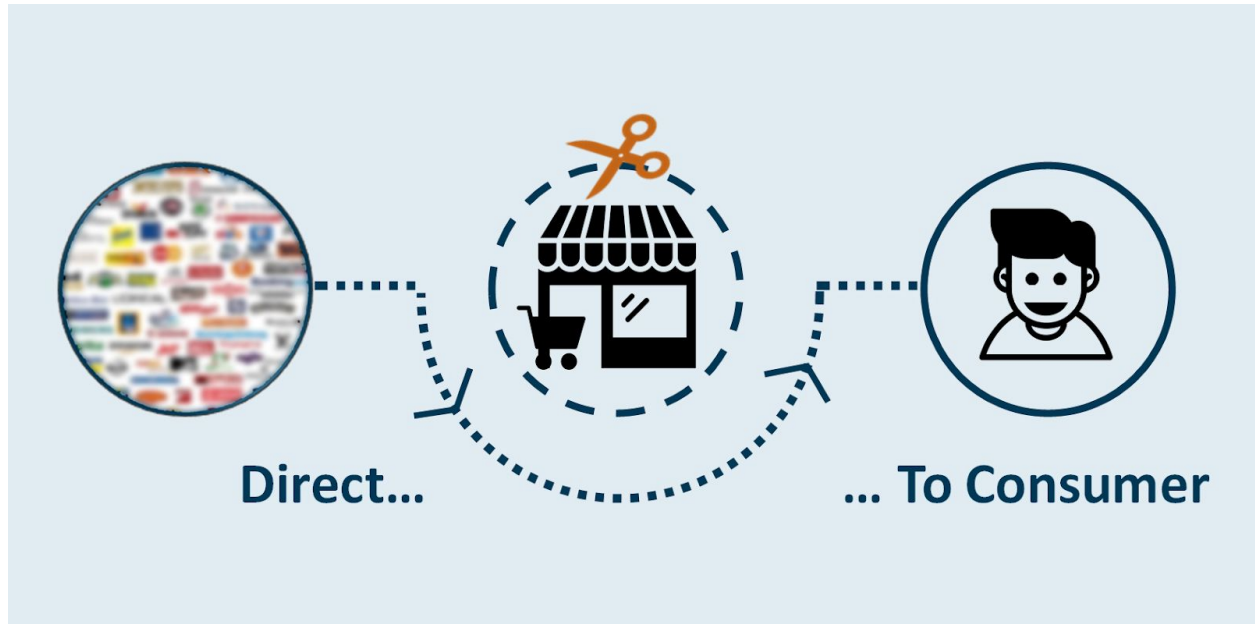
To elaborate on this choice of the model let us consider the porter's five forces hand in hand as well. As mentioned above the threat of new entrants is quite high, therefore in order to strengthen the barriers to entry, we would be providing product differentiation such as real time train tracking, strategic alliances with the government such that the value of the application is increased as a trusted source is involved etc. The rivalry among existing competitors is moderate since currently there is no one firm providing all the features proposed by RailPal but some features are provided by different competitors. To overcome this we are differentiating our product RailPal by introducing more features that would increase the ease of catching trains for the customers. These type of strategic goals can be achieved easily through the direct to customer model.

E-Transformation Methodology

This section will discuss how our application has gone through each of the stages in the e-transformation road map. The application provides basic features like displaying train schedules which takes it though the initial stage of the road map which is "Basic website". It also includes features which require some interaction with the user , such as obtaining the closest railway station once a user enters their current location and also generating notifications based on the current location of the train and the passenger which are tracked by the app. Such features takes the app through the second stage of the roadmap which is "Interactive site". Then it also incorporates features which facilitate functions like purchasing tickets which ultimately makes RailPal an "E-commerce application" which is the final stage of the e-transformation road map.
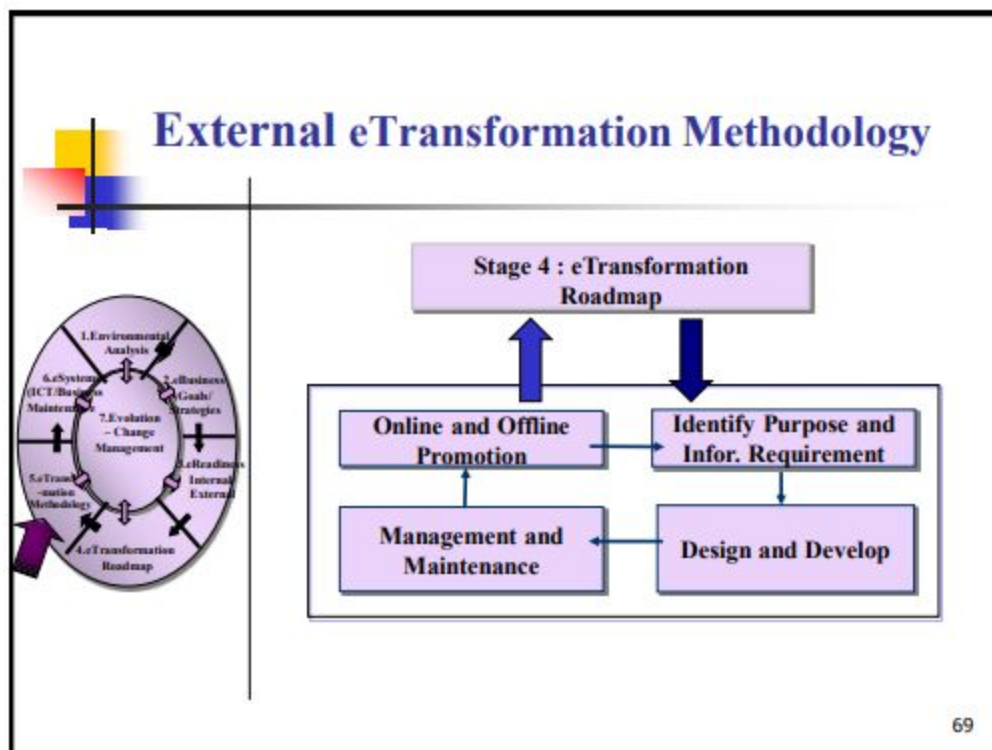
The above diagram depicts the methodology followed in this transformation process. Initially the existing requirement was identified which were discussed previously in this document and then the features were finalized and the functionalities were designed accordingly. Once the

application is hosted it has to be maintained and upgraded with the changes in technology. Online and offline promotion needs to be undertaken to take the application to the right target audience.

Pricing

The main focus of this app is to provide a solution to one of the biggest problems that the country faces in transport and to make life easier for millions around the country, therefore the app with its basic features will be given to the users free of charge through the google play store and apple app store.

As for the revenue generation model, RailPal will take the advantage from its large user base and monetizing through Ad Revenue which would be linked with Google adwords too. If anyone or any organization wishes to directly advertise on RailPal there are other payment plans available for them.

Also the app will have premium accounts that would have premium features(such as generating notifications based on the tracked information given by the application on the current location of both the train and the passenger,and setting reminders for longer periods than 24 hours) and would run without ads. For this, the users will have to pay a subscription fee.

Reserving seats and buying tickets are also two of the facilities provided by the app 'RailPal' and there will be a commision charged for these transactions and it will also be one of the main incomes from the app.

<u>Conclusion</u>

Considering all the factors that were mentioned in this report it can be concluded that RailPal is capable of meeting the requirements identified and would help immensely in overcoming the problems that are currently experienced by the target population.When looking into the analyses undertaken for each of the aspects it can also be said that RailPal can have a sustainable journey within the industry by adhering to the strategies proposed by our team