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An Effective Approach of Hyperlocal based Services in Smart Cities

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Abstract - *Hyperlocal is a model built to integrate offline and online systems to create methods and algorithms, optimizing the channels and plans for consumer satisfaction and minimum time necessity. Hyperlocal Commerce refers to trade and marketing in areas, using the procedures and methods precisely optimized for each area. In this paper, we will address the essential aspects of Hyperlocal model. We will consider the three companies based on the hyperlocal model and differ in each other in terms of the services they provide and the area they serve. We use data visualization and correlation techniques to find out the relations between various attributes to these companies and examine the acceptance of the hyperlocal company based on locations and services they provide. We had derived the factors on which hyperlocal companies depend which have been discussed further.*

Key Words: **Hyperlocal, Services, Transactions, Delivery, Communication, Correlation**

1. INTRODUCTION

A Hyperlocal quantity or activity is one that is based, operates and thinks for the development of its specific area. The word Hyperlocal can be used as such or with another term to state its domain. In this paper, we would discuss Hyperlocal activities, explaining their presence within an area, along with the different factors that contribute to their success in that area. A few hyperlocal activities have been shown in Fig. 1.

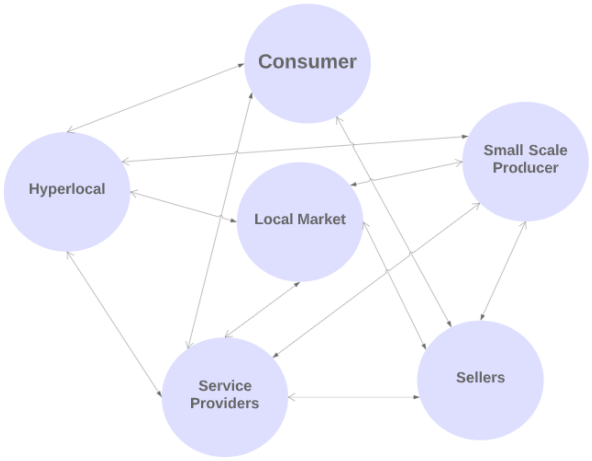


Fig -1: The Hyperlocal activities

The Hyperlocal Commerce, it is probably the most famous one among various Hyperlocal activities. It has rapidly grown in recent years due to the growing usage of the Internet in India. This explosive expansion is the grant from the already set eCommerce sector. It can be grocery and food delivery services such as Foodpanda, Instacart, Delivery Hero, Grofers, Swiggy and PepperTap they all fall unto the category of Hyperlocal Commerce. They connect customers to restaurants and grocery suppliers via mobile apps and provide delivery for the products, via logistic channels.

The Hyperlocal service sector started its expanse at the moment of its entry. eCommerce provided a standard customer base and also the acceptance needed the flourishment of different online services available in their area. The standard shift of the customer support from the offline market to online market can be seen as gaining the trust of the customers to the products and the transactions.

Startups are concentrating towards establishing their hold around the hyperlocal environment. New Startups are focusing towards the local areas which lead to the wider expansion of their hyperlocal environment. The hyperlocal industry is still tiling for space in its environment and get a steady base for operations in the area.

Home Utility Service start-ups such as Housekeep, near.in, Taskbob, UrbanClap and Doormint provide routine home services such as painting, plumbing etc. Logistics start-ups such as Shipster, Swapbox Inc., Roadrunnr, Grab, Shadowfax and Delhivery, Dunzo provide a delivery platform for the transport of utilities such as medicines, office supplies and simple items such as books, bags etc. These logistics startups often use local people and their everyday movements for the transportation of the item. The various services of the hyperlocal model have been represented in Fig. 2. Hyperlocal News which is an entirely new model, which helps provide local news to the people, and helps advertisements reach out to their particular demographic audience.

Local media represents a significant role in their media ecosystems. We can investigate the important features of the local media in Finland [1]. Hyperlocal media points to the contents that are primarily local and this hyperlocal media can help in promoting the local business. These hyperlocal media often contain stories that are not regarded as news by the major media channels. The publisher of hyperlocal media usually sees the residents as their main audience. Most of these hyperlocal publications are generally supervised by one person or a couple of people. Being an entirely local media platform, the goals, authorship, content and methods

of these publications differ as per the resources and technology available in the area.

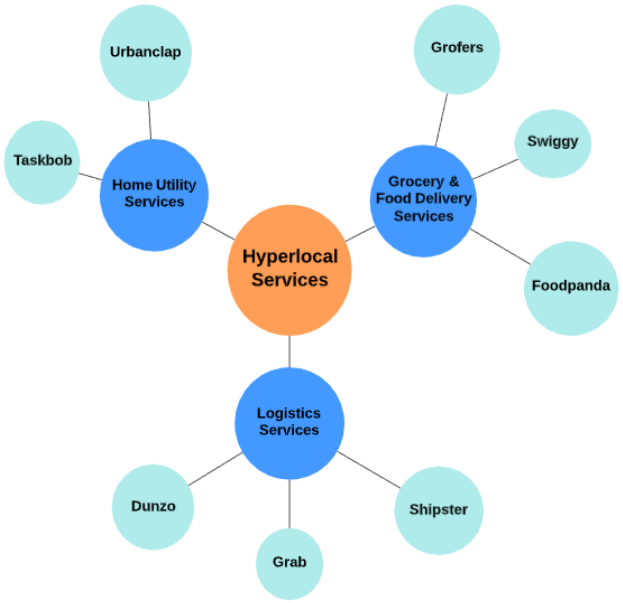


Fig -2: The various services involved in hyperlocal model

Hyperlocal Services are the well-modelled services where service providers grab on to the demands of well-defined geographic location and deliver the service to the consumer at their doorstep. The feasibility to deliver the service in a demographic location depends on the consumer behavior, delivery process, flexibility of transaction and well communication between every actor present in the model. The reason for Hyperlocal Service to trend nowadays is it ensures the growth of demands of a consumer and integrates many platforms, providing many people with their livelihood.

2. LITERATURE REVIEW

In a local environment, there are four principal members. These are Local Generators, Tradesmen, Purchasers and the Service Providers. All of these are interrelated and interdependent. Collectively they build the support of the local market. The relations formed between these members is what gives a strong base for different Hyperlocal activities. The hyperlocal model is dependent on the working of the local market. Hyperlocal designs are deeply change-oriented and revised as per the local market.

Hyperlocal models are much more diversified than they are assumed to be. They focus on public interests specific to the local public, which includes factors like product demand and basic utilities. The research algorithms used are intended to find the optimum route to complete the action. As stated by D Kumar and T Yabe in Social-Media aided Hyperlocal Help-Network Matching & Routing during Emergencies, 2018[2], it is a robust model that can even deliver aid to people in emergencies such as hurricanes and floods.

Communication is key between different members of this model. The model can record necessary data, needed to investigate the interests and the livelihood of people living in the area. According to C Xia, R Schwartz [3], real-time data made available from various social media platforms can help assess the people' interests and on goings of the area. The hyperlocal model is economically feasible. It depends on the local public, the transport system, and the monetary model available in the area.

Hyperlocal news Web Sites are a prime example of this. According to Gluckstadt [4], Hyperlocal News Website provides the local news in which the public is interested. In return, they get advertising money. Targeted local and national advertisements are two major participants of local digital marketing. Local Bloggers are hired at a reasonable cost. [5] describes the development of hyperlocal services in the Marginalized communities of South Africa. The development of transport, local trade, electricity and connection of all of these with the internet, can put a trace on the overall scenario making the local people more aware of their city. These setups address the primary issues of the local communities with transport and other things.

The hyperlocal model does have some constraints and challenges. For the local merchant who has never used the internet, it becomes difficult for them to learn the process properly and hope that they will cooperate with service properly. The delivery is also a big issue related to this scenario. The local buyers don't prefer to buy products or use services if the cost of delivery is high. So, to reduce the high delivery costs to provide the service is the most prominent challenge for any company. The nature of the product and the service is the most significant concern related to this model. If the quality does not match the standards, then the customer returns the goods and can never prefer online services anymore.

The success of this model depends on proper planning and execution of the business. With the demographic diversity and broad consumer base, competition becomes tough between the sellers. Growing digitalization promises e-commerce opportunities for sellers. The value proposition of hyperlocal services has also improved the User Interface and User Experience, reducing the pain of the consumer caused by the traditional model. The sellers also seek through the window of O2O (Online to Offline) to compete in the present time. Phygital (i.e. Physical + Digital) model, where the consumer is contacted at a particular location, has seen a growth and which enhanced the overall experience with the service providers.

The general states of the hyperlocal service have been shown in Fig. 3. Registering with mobile number and ZIP Code makes simple to collect the details region-wise. It is also important to understand the response of the customer. The user's response and frequent orders should be recorded. It

helps to understand the user properly, what he/she can need daily and what problem the user faces during the activity cycle. We can try to make the process in simpler forms which indeed can help to make the process less complex and can attract many other users.

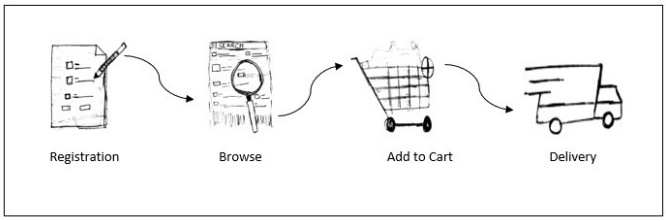


Fig -3. The general state of hyperlocal service

3. PHASES OF HYPERLOCAL MODEL

The most crucial phases of the Hyperlocal Model are Services, Communication, Delivery, and Transaction. These four phases comprise major actors and the department they manage. It becomes very important to understand the importance of each phase as these phases depend on factors that measure the feasibility of Hyperlocal commerce in a particular demographic.

3.1 Services

The service phase comprises what kind of service to be offered, through an independent application or by using third-party apps such as WhatsApp, Tweeter, etc. It also includes a brief study of the demographic and survey to know what kind of service is much needed. It also becomes important to understand the consumer's lifestyle, how much they can afford to pay for an average activity cycle of any hyperlocal service and to compare the scores with service expected collection. If it is quite near to revenue collection, it depicts public acceptance to a particular service. Providing a good service to the customer can expect to follow the new technology trends. Using Artificial Intelligence is a very new trend in this direction. The use of Artificial Intelligence in business [6] can have a positive impact as it increases productivity and also the efficiency of the business and can bring the prediction capability based on the shopping nature of the customer. This will further help the customer to decide what to buy. These types of features can boost up the orders of the hyperlocal companies.

3.2 Transaction

The transaction is the most important phase of the Hyperlocal model. It is necessary to enhance the quality of the transaction to empower the hyperlocal business. The transaction should be trustworthy and comfortable for the users. So, the proper implementation of the transaction process into the software is required. The software should have the precise connections between the end-users following up the process. In the three-tier application which consists of three layers namely browsers, web servers and the database, the general approach defined for the e-transaction is to generalize the algorithm to handle multiple clients and their concurrent request at the same time [7]. The end-to-end reliability in the three-tier-application shares its specification that ensures the safety of the E-transaction. Once Web Services are introduced, the web service transaction becomes popular which followed the Semantic Hierarchy Transaction Model (SHTM) which helped in magnifying the degree of concurrency in the transaction by supporting the data dependency to exist between transaction [8]. Furthermore, it also described the two-tier commit processing mechanism which is suitable to integrate the semantic property demands of Web Service transactions.

The mobile-based transaction comes into light after the internet becomes accessible to the users. This mobile-based transaction initially suffered from movement problems such as disconnections and location dependency because of the continuous movement of the mobile phone [9]. The ACID (Atomicity, Consistency, Isolation and Durability) properties are important in the mobile-based transaction to enhance the availability of the mobile host. The IP addresses of the mobile or the SOA (Service Oriented Architecture) services can solve the disconnection problem and location dependency problem of the distributed atomic transactions. Once we develop a precise model of the transaction, our hyperlocal system will be more trusted by the end-users.

3.3 Communication

In the hyperlocal system, the communication system provides the link to communicate with the various actors (a user or a system that interacts with the subject) of the system. This communication system can be useful in many ways. They allow the end-users of the software system to communicate to the service provider. They can also provide access to the local community members to share their perspective, their issues or even to create awareness. The local newspaper or magazine makes use of this hyperlocal communication system to obtain the latest news of the society. The software model should contain an effective communication system between the automated software parts and the end-users. The proper lines of communication are required between the actors operating the various tasks [10]. These lines will limit the important knowledge sharing points between the actors of the system. The concurrent moving based-connection will ensure that connectivity between the actors is continuous [11]. This concurrent moving can allow the actors within the software to send the message to their neighbour which contains information about the movement before moving. Every actor creates a sub-path to its moving neighbour actor while performing the movement task. The actor moves with the primary aim to achieve continuous-connectivity.

3.4 Delivery

Delivery becomes an important phase. Every time companies need to come up with the proper delivery strategies. The hyperlocal companies compete with each

other to deliver their product or service at the fastest and the cheapest rates than others [12]. Pickup and Delivery Problems (PDP) covers the Vehicle Routing Problems in an area where the task is to find the minimum-cost collection vehicle routes. The development of technology always aims to propose the new and more cost-effective algorithm based on the present requirement of the delivery which minimized the ongoing challenge of the existing delivery system. According to Yanfang Ma [13], vehicle routing problems can be solved with the reverse logistics having multiple decision-makers, which provides logistics service between pickup and delivery points with the consideration of the mutual influence of the other decision-makers.

The single-vehicle VRPPDTW (vehicle routing problem with pickup and delivery with time windows) problem can be solved by proposing an algorithm by considering time window [14]. This provides the optimal solution that can solve the vehicle routing plus scheduling problem especially for the large-scale network of transportation. Bent, R. and Van Hentenryck P. proposed the two-stage hybrid algorithm for this routing problem for multiple vehicles [15]. The first stage focused to decrease the number of routes and the second stage concentrated to reduce the travel cost. This algorithm minimized the vehicle required for the delivery with less cost but serves only the small group of customers with nearly 100, 200, 600.

4. METHODOLOGY

We discussed the four phases of the Hyperlocal Models i.e., Service, Transaction, Communication, and Delivery. In this paper, we will discuss the factors which are necessary for the proper working of the hyperlocal company. Some of the basic attributes which are common in every company that are the active users, the orders placed, the total delivery of orders, etc. Our primary approach will be to find out these important attributes which are required for the hyperlocal company to expand. All these attributes can be needed to determine the phases of the Hyperlocal models. We will find out the trends in these attributes separately and relate them with one another to discover how these affect the company. The study of these attributes can be based on finding the correlation table and also by individually plotting the relevant graphs for the same. At last, we relate these attributes with the hyperlocal phases to find out any relation between these phases.

We had considered three companies that work on a different domain or different demographic area and based on the Hyperlocal model. These companies had various varying attributes related to their works and domain. We examined these attributes separately with the time frame for different companies and tried to show the response of each attributes with time. Later, we worked towards relating these attributes with one another to find out any relationship between them. For this, we find the correlation between each attribute and represent the correlation values in the table. At the later stage, we have shown the major common attributes among these 3 companies in a single graph and conclude the factors which can be responsible for the variation of these attributes.

We also relate the phases of the Hyperlocal Model which can affect the way of these attributes. Apart from this, we can also compare the Employee ratings of the companies taken from source [16] which can give more clarity on the communication phase. These ratings are related to the management purpose where employees express their views about the working environment of the company and the culture and career opportunities but these can be claimed as an important direction towards knowing the communication within the company as communication is the important management function.

4.1 Dataset Description

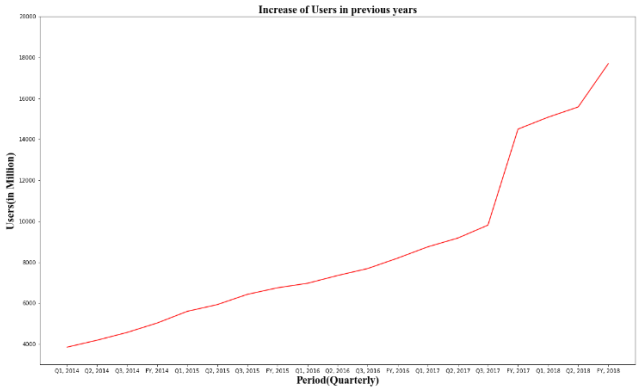
- GrubHub Dataset: GrubHub is the American Food Ordering and the Delivery platform which works on the Hyperlocal model. The company is based in Chicago and it joins the customers with the local restaurants. By the first quarter of 2019, the company had around 19.9 million active users and also around 115,000 restaurants associated with it and expanded across 2,200 cities of the United States. The data contains the quarterly records of orders, cities, delivery, users, etc. over 5 years: from 2014 to 2018.
- Blue Apron Dataset: Blue Apron Inc. is an American grocery delivery company that deals with the service of an ingredient-and-recipe meal kit. It suggests the recipes to the customers and also provides the ingredients for the same. It helps the customer to prepare the meals at their home. The company had around 4000 workers by the end of 2017. The data contains quarterly records of important attributes such as orders, customers, order value, etc. from 2015 to early 2018.
- Just Eat Dataset: Just Eat is an online food ordering company. It allows the users to order the foods and also pays for the food online from its restaurant partners and delivers the food to home. The company is headquartered in London and now operating in 13 countries. It had around 91 million users by 2017. The data contains the quarterly or yearly records of orders placed, users, restaurants, etc. over 5 years: from 2014 to mid-2017.

5. OBSERATIONS

5.1 Grubhub

On diligent observation of the graphs from Fig. 4, the following interpretations can be made. The number of active users for the company increases with time. The number of active users observes a sudden jump by late 2017 as shown in Fig. 4a. This increase in the number of active users can define the service of the company at its best and also the positivity among the users. At the same time, we can also observe the increase in the number of orders with years as shown in Fig. 4b. The increase in orders indicates that people are now more comfortable and have more trust in the

company. This trust can be in the form of transaction or payment and also the quality. The relation between growing orders and cities is quite interesting. Fig. 4c depicts that whenever the number of orders received becomes non-increasing, the company expanded to the new cities and the number of orders also boom. We can see the same trend again and again. This can be an essential factor to increase the order number. The employee ratings for the company are shown in Fig 4d. The company received an average rating of 3.1 from its employees. According to the employees, the work balance of the company is decent and received an average rating of 3.5. At the same time, the senior management has received the least rating of only 2.3. The correlation graph can be seen in Fig 5. The relationship between the various attributes can be visualized. The correlation between active users and the average daily delivery is 0.97. Further looking, the correlation between the average daily delivery and the active cities is 0.98. The correlation of orders with Active Users, Active Cities, and Active daily delivery is 0.95, 0.97,0.99 respectively. It means that to increase the number of orders we have to consider active users, active cities and number of orders can then define the active daily delivery. This is also important to observe that active cities, daily deliveries and active users, orders are strongly correlated to each other. With this information, we can infer that in the hyperlocal food market business based in the US, four factors i.e. Active users, orders, cities, deliveries are important for the successful run of the company and among them the number of orders and daily delivery and also Active users and Active cities are most correlated with a correlation value of 0.99.



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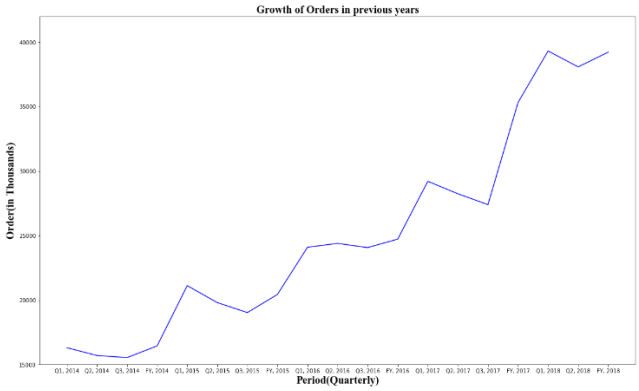

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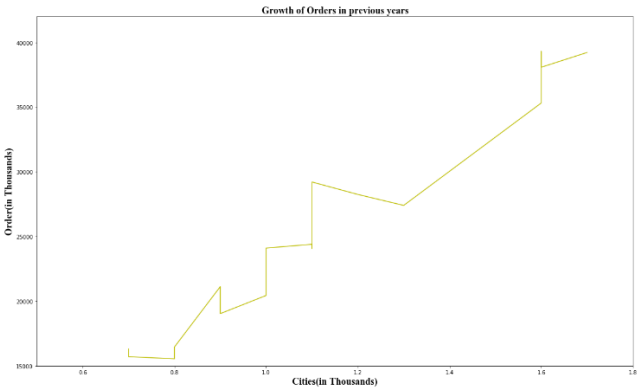


(c)

(d)

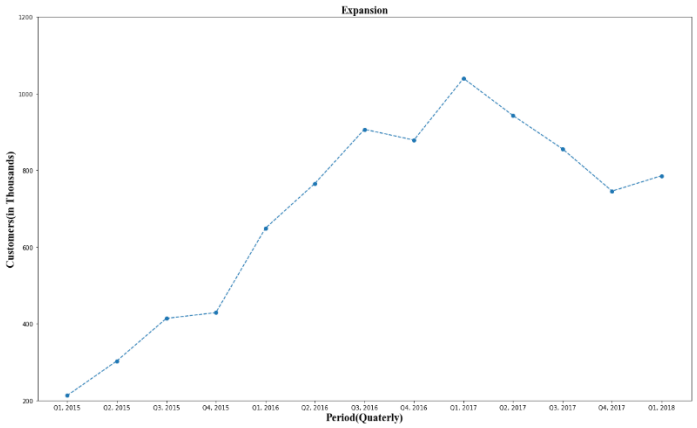
Fig -4. The data visualization result of Grubhub. (a) Users Vs Time Period. (b) Orders Vs Time Period. (c) Orders Vs Cities (d) Ratings of Employee of Grubhub

	Active Users(K)	Average Daily Deliveries(K)	Active Cities(K)	Restaurants(K)	Menus in Database(K)	log orders
Active Users(K)	1.000000	0.974747	0.986114	0.527717	0.130221	0.947086
Average Daily Deliveries(K)	0.974747	1.000000	0.977372	0.616322	0.068056	0.990312
Active Cities(K)	0.986114	0.977372	1.000000	0.618759	0.159556	0.966517
Restaurants(K)	0.527717	0.616322	0.618759	1.000000	0.260645	0.669109
Menus in Database(K)	0.130221	0.068056	0.159556	0.260645	1.000000	0.075568
log orders	0.947086	0.990312	0.966517	0.669109	0.075568	1.000000

Fig -5. The Correlation table of attributes of Grubhub dataset

5.2 Blue Apron

On diligent observation of the graphs from Fig. 6, we can make the following inferences. Similar to the Grubhub case, the number of customers for the company increases with time. The number of customers slows down in Early's 2017 but again starts increasing by the end of the year as shown in Fig. 6a. This describes the service sector of the company to be decent and also the customers are being attracted to the company. A similar trend can be seen in Fig. 6b, where the number of orders increases with time from 0.8 million by early 2015 to 3.5 million by early 2018. This rise in the orders again is the best assurance for the trust of the company. Fig. 6c describes the number of growing orders with an increase in customers. This is in the form of the straight line which sharply represents that both are dependent on each other. The Blue Apron employees' ratings are shown in Fig. 6d. According to what shown in the figure and what taken from the source, we can define the communication section for the company. This company has received average ratings of 3.0 from the employees. The companies received the most rating in Work balance and the least in Career opportunities. The correlation table is shown in Fig 7. Once observing the table, we can find that according to what was depicted in Fig. 6c, the correlation table gives a similar indication as both orders and customers are highly correlated to each other with the correlation value of 0.99. Apart from these, we can also correlate the meals delivered per month with the number of customers as they have a correlation value of 0.91. The correlation values of 0.95 between the orders made by each customer and the average revenue generated by each customer will indicate us towards the revenue model of the company where we can predict the total revenue generated by the company with the number of customers ordered from the company.



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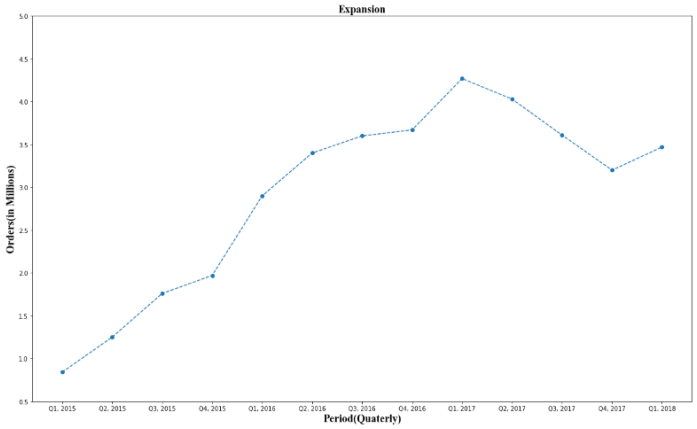

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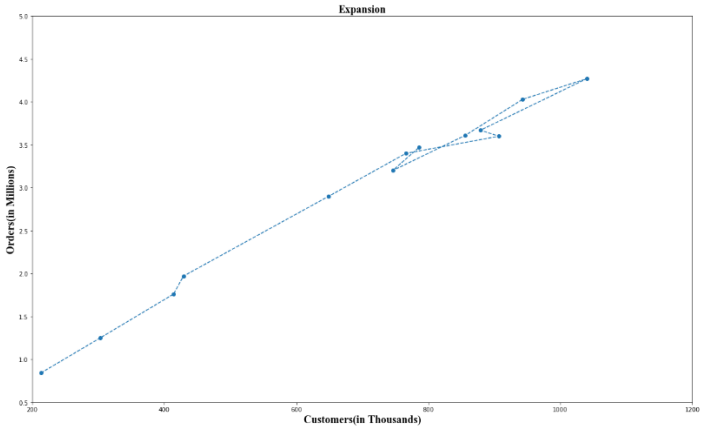

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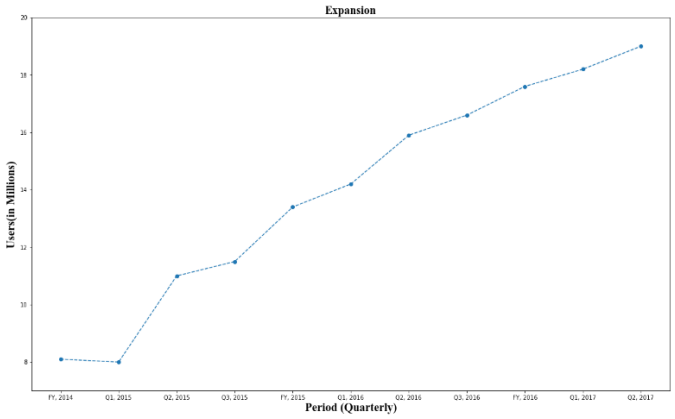
Fig -6. The data visualization result of Blue Apron. (a) Customers Vs Time Period. (b) Orders Vs Time Period. (c) Orders Vs Customers (d) Ratings of Employee of Blue Apron

	Orders (m)	Customers in (K)	Average Order Value in ($)	Orders per Customer	Average Revenue per Customer in($)	Meals Delivered per Month in (m)	Cost per Customer in ($)
Orders (m)	1.000000	0.994189	-0.177943	0.138243	0.043288	0.913870	-0.361846
Customers in (K)	0.994189	1.000000	-0.229240	0.042118	-0.053905	0.915897	-0.391603
Average Order Value in ($)	-0.177943	-0.229240	1.000000	0.482195	0.688214	-0.274211	0.320650
Orders per Customer	0.138243	0.042118	0.482195	1.000000	0.958122	0.008128	0.447525
Average Revenue per Customer in($)	0.043288	-0.053905	0.688214	0.958122	1.000000	-0.080715	0.424232
Meals Delivered per Month in (m)	0.913870	0.915897	-0.274211	0.008128	-0.080715	1.000000	-0.321149
Cost per Customer in ($)	-0.361846	-0.391603	0.320650	0.447525	0.424232	-0.321149	1.000000

Fig -7. The Correlation table of attributes of Blue Apron dataset.

5.3 Just Eat

We can make the statements on Just Eat based on Fig. 8. Similar to the previous cases, the number of users for the company increases with time. We can observe from Fig. 8a that the users continuously increase with the years. This time too this a positive indication of the popularity of the company among the customers. Fig 8b depicts that the orders increase with time. Though we can see very little difference in the increase of order with time, even this small increment is a good response for the company. The average rating of the employee for this company is 3.9 as shown in Fig 8c. This company can also be viewed as a good environment for communication among the Employees and also within the other factors such as users. The correlation graph can be seen in Fig 9. We can visualize the relationship between the attributes. The number of orders received is highly correlated with the number of users and the correlation value is 0.95. The restaurant is highly correlated with orders and users with a correlation value of 0.91 and 0.96 respectively. The high value of 0.96 between users and restaurants can suggest that the varieties in food from different restaurants can also attract the number of users. Apart from this, the revenue per customer is highly correlated with the number of orders placed which shows that the revenue of the company increases when the number of orders increases.



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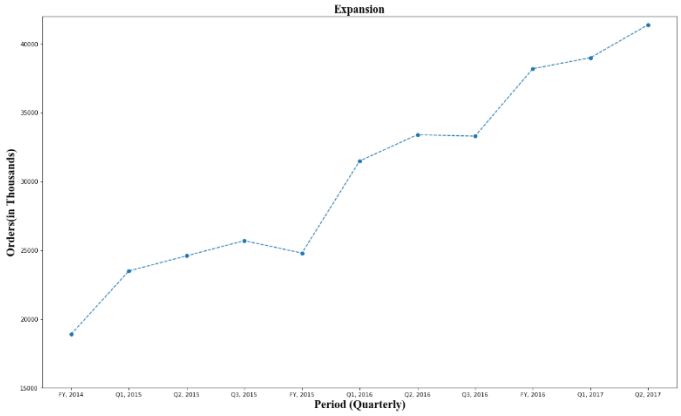

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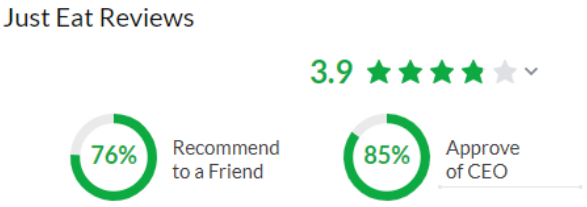


(c)

Fig -8. The data visualization result of Just Eat. (a) Users Vs Time Period. (b) Orders Vs Time Period. (c) Ratings of Employee of Just Eat

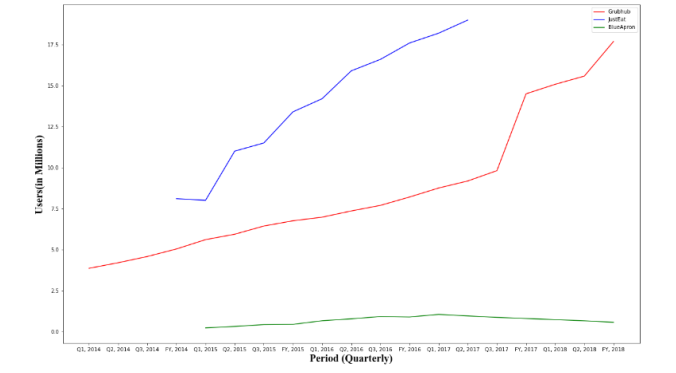
	Orders (k)	Users in (m)	Restaurants (k)	Revenue per Customer in(£
Orders (k)	1.000000	0.955342	0.919536	0.904762
Users in (m)	0.955342	1.000000	0.969217	0.861537
Restaurants (k)	0.919536	0.969217	1.000000	0.816842
Revenue per Customer in(£	0.904762	0.861537	0.816842	1.000000

Fig -9. The Correlation table of attributes of Blue Apron dataset.

The individual interpretation of the companies had been made in the previous sections. Bringing together some common attributes will give us a reliable comparison

between these companies which can further help to classify the hyperlocal model based on the demographic diversity and the domain it works on. Fig 10a compares the growth of active users of these companies and the number of active users these companies had in the following quarters of years. The Food ordering and delivery companies i.e. Grubhub and Just Eat is far beyond the grocery delivery company Blue Apron. Though these companies succeed in expanding the users with years, the number of active users of Blue Apron suggests that their service is not as popular as what the other companies hold. Further interpretations suggest that Just Eat always had more active users than Grubhub even if they both are continuously gaining the users with time. This can give further clarification that people based in Europe are more accepted towards these models than the US. Looking at the Fig 10b, the number of orders fluctuate for all these companies.

All these companies showed the same trend in the orders they received irrespective of their domain and location. As the number of active users is less in Blue Apron, it received the minimum order among these 3 companies. We already showed how the number of orders and active users are highly correlated in the previous paragraphs, so while comparing these companies together, we can see the same result as the company having the higher number of active users i.e. Just Eat received more orders than the companies having fewer active users.



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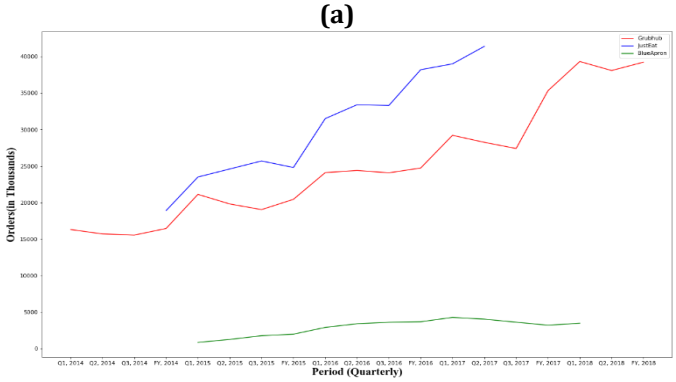

(b)

Fig -10. The comparison between the companies Grubhub, Blue Apron, Just Eat. (a) Users Vs Time Period. (b) Orders Vs Time Period

6. CONCLUSION

The hyperlocal market seemed to be growing at the fastest rate in the years. Most of the new start-ups are concentrating on this model. So, it becomes more important to capture the factors to which this model relies on and also to study the present trend in this model. Our study was conducted using 3 companies (i) Grubhub a company based in the US and involved in the food market, (ii) Blue Apron a company based in the US and involved in grocery delivery and (iii) Just Eat a Britain based company and gets involved in the food market. Plotting the graphs of attributes of the datasets with time gives important results. The active users of each company increase with time irrespective of the company's service and location. This is important to convey that the demand for the service increases with time and though the company is earning popularity day by day. This growing user will always bring the new order demand for the company as the users and orders are highly correlated with each other. So, if a company need to increase its sale then it has to focus on increasing users. The growing demand for orders and users also means that the company has earned the trust of the users. The trust can be in the form of transaction or in the form of the service the company provides. Being a hyperlocal company, the transaction is a very important phase. Most of the companies can have an online form of transactions. Allowing the simpler way of the transaction and that too accepted by the users can lead to the positive side for the company. Providing the best service should always be the top priority for the company and the number of users will increase if they feel that the service of the company is good [8]. As the number of orders increased, the company will start receiving more revenue as the revenue of the company is correlated with the number of orders it received. So, there is a chain between the number of users, the number of orders received and the revenue generation. Grubhub and Just Eat are two companies providing the same service to the customers but based on different regions of the world. Their study of active users suggests that Just Eat always leads the number of active users than Grubhub. This can suggest that demographic diversity plays an important role in deciding the company's success. Though the active users of the companies are continuously increasing, it's the location that decides whether the service will get more popularity or not. The service is widely accepted in the other region is not the accurate criteria to decide that the service will also be accepted in the targeted region. The type of people and the needs of people are also important factors to consider. According to the graph, the US and the UK are both accepting the food delivery service but the UK based companies have more active users than the US-based company.

The popularity and need for the service by the people also plays a crucial role in the Hyperlocal market. Grubhub and Blue Apron are both US-based companies. They vary in the service they provide to the customer. Their study shows that

the food ordering-based company i.e. Grubhub is getting more popularity than the grocery delivery-based company Blue Apron. This can conclude that the routine needs of the service can also decide the company's popularity. If the particular service is important in the daily life and it can affect the change in the life as what food delivery company does, then there is the high chance to get more popularity than the company which is focused on other things such as the grocery delivery which delivers meal kit to the customers.

7. FUTURE SCOPE

A Hyperlocal Service based Start-ups face many problems. Issues related to services, transportation, the technology used, platform, pricing, delivery becomes vital while rolling out the services to the market. A known demographic is like a fertile land set for services, logistics, and expansion. With setting the specific parameters such as transportation facilities for services and goods, understanding the pricing model through the consumption of product and services by people, surveying and exploring the different needs and prioritizing the needs which may lead an impact in market and for which a local customer is ready but been ignored for a while due to risk. "Hyperlocal Index" will not only analyze the demand and needs of the local regions, transport facility, and logistics but will also provide the glimpse to the corresponding Hyperlocal Start-ups what procedures they should take to make their system more flexible and secure that the chain of supply of service never weakens. Hyperlocal Index (Xi) will boost the required number of services that are hunting for their target market` and optimize the consumption of the services. It will play a vital role in developing the cities majorly through micro-processes. For every service, Hyperlocal Index (Xi) will be different as every service varies while depending on the ways for transaction, delivery process, service demanded, the communication needed and technology used. For every demographic different Index will be procured for varying services. Hyperlocal Index (Xi) will be independent of the Business models the operator works on. Hyperlocal Index (Xi) depends on micro-processes performed until the service is delivered to the doorstep. Hyperlocal Index (Xi) will also be independent of the funding and investment. Let us understand with an example, suppose there are two Cities A and B. City A has a good index for Food Delivery from experience but during summers the food delivery services drop. It has a low index for hyperlocal news. Whereas City B has a comparably low index for Food Delivery as City A has but its index increased during summers. It also has a fair index for hyperlocal news. Seems people are interested to read hyperlocal news. With further development of roadways, the hyperlocal index (Xi) became comparable for food delivery services as of hyperlocal index (Xi) of City A. Hyperlocal Index relates to the Active Users and Orders which can be analyzed on a monthly or quarterly basis. It does not relate to the revenue collection. Moreover, it relates to commonness. Assume both City A and City B comes under Region R1 which has comparably good hyperlocal index (Xi) Region R2 has. Both Region R1 and R2 come under Country C1 which has again good hyperlocal index (Xi) than C2, and so on. With the help of the preferable Classification and Regression Model, we can generate the hyperlocal index (Xi) which can help millions of Hyperlocal Service based Start-ups to target their interest in the market.

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