Big Data In Hospitality Industry: A survey

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Abstract-*The new range of big data information management is becoming a reality, which is generating and consuming the amount of current data. Perhaps the greatest opportunity for big data to build hospitality businesses is to embrace the changing structure of the data and to maximize its usage. It provides the ability to make ample changes of all hospitality companies, thereby helping them to increase both business and experience of customers and guests. With the transformation of any generation in technology, however, with the ability of potential intervention, hands-on access brings in many competitive and creative challenges in the hospitality sector naturally*

Keywords-ARR, Occupancy Rate, Cost optimization Supply, Demand

Introduction:-

Big data has achieved a lot of response in last few years in the hospitality industry. In today's world almost everyone is connected to internet everywhere, which in turn creates a lot of data at a very fast rate. This gives rise to many challenges. As we know there are many benefits of big data for many organizations, there are also challenges and issues related to it that should also be brought into attention.

Over the past, we have heard many definitions of big data, but in simple words it is large amount of data sets which is complex and difficult to process by normal data processing tools. But in reality big data is same old data with just different definitions

In today's world major issue every firm faces is managing unstructured customer data and strives to gain vital facts from it. It is important to understand and analyze relationships between various types of information available in large data sets because they can give meaningful signs about customer preferences and help improve business and provide ultra-individualize services so that the customer's demands and expectations can be met.

2.Why Big Data?

Big Data has a great importance in the industry and the need to tackle the customer's demand with large amount of data is necessary as it gives useful insights of the customer's likes and dislikes. some of the examples of big data are analysizedusing below statistics
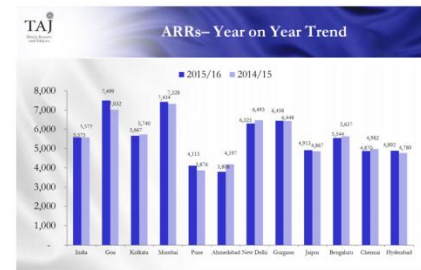

CHART 1 –ARR year wise trend

ARR stands for average room rate which is used to measure the average rate per available room
ARR= Total Room Revenue / Total Rooms Occupied.
Measuring ARR is used for analyzing the performance of hotels
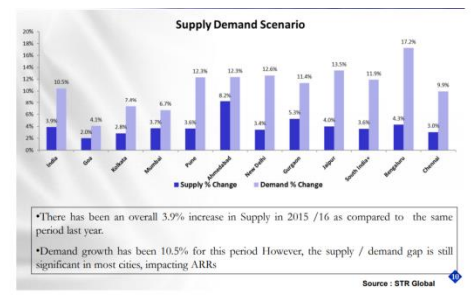

Chart 2 – Supply Demand Scenario

As seen from the above graph showing demand supply scenario of calendar year 2015/16 the change in supply is a lot less than The change in supply so big data can be used effectively to meet the demand and supply of the customers
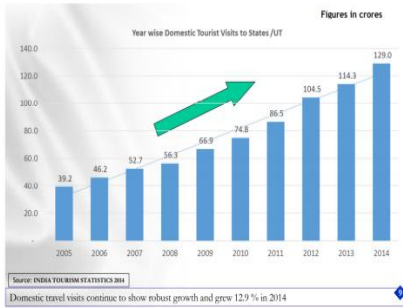

Chart3 – Year wise analysis of domestic tourists
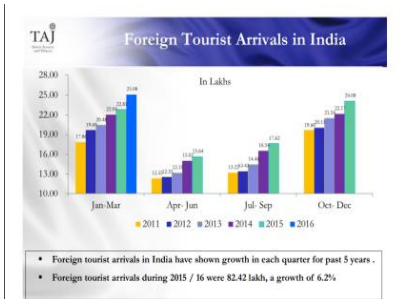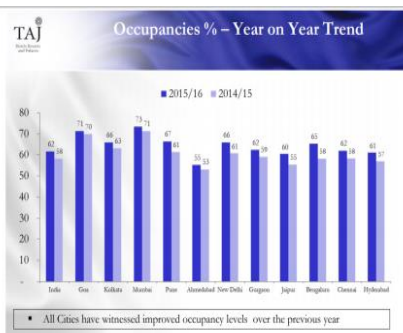

Chart4- Foreign tourist arrival rate in India

This graph shows the arrival of foreign tourist in India

As the hospitality business is growing day by day, it is very important to manage the data for making better financial and marketing strategies. as according to the stats provided by Indian tourism government, domestic travel visits continue to show robust growth and grew 12.9 % in 2014 whereas there is rise of around 2-4% increase in occupancy rate of major cities from financial year of 2014/15 to 2015/16 So this statistics could be used to provide better customer deals, managing temporary staff and provide more efficiency, etc.

3. Big Data in Hospitality Industry:-

Big data improves the quality of service to such an extent so that it can be easily executed in all sectors. An example of this sector is the hospitality industry. Today we identify big data as hefty trends which influences the hospitality industry because it offers us many opportunities to improve current customer services, to improve efficiency of our operations, to create better marketing strategies and hence maximizes our output and profitability.

Big data is transforming many areas in hospitality industry which can be listed such as:

3.1 Improving Customer experience through Personalization

For better customer experience the hospitality industry must work on achieving their priorities. The perfect way to understand these priorities is by gathering information on customer from variable sources mainly from internet but there is a lot of information on internet for each and every person so it is important to remove the irrelevant information and take important details out of it.

For example, a housing firm with many restaurants can analyze a customer transaction data so that he can estimate his eating patterns. In addition, through user-generated websites and social media channels, to know how my customer can enjoy their food at a particular restaurant. Analyzing information from these sources will give the customer insights into the culinary choices of the customer.

3.2 Marketing Strategies

Big data helps the firm make the perfect marketing approaches for each and every target segment based on their preferences and needs. When the firm understands the customers well they can devise the best strategy to reach them out for example if the target is frequently active on social media we can reach them via social media this sort of strategies give the firm visibility amongst their target customers With the correct big data techniques and tools a company can spread across different marketing channels with suitable marketing channels with suitable marketing strategies in real time with this company can stay on the top of the changing priorities of customer and use it essentially to get maximum visibility and sales of services

3.3 Cost and Capacity Optimization

There is a lack of unique characteristic ability about the hospitality industry. Almost every travel companion and hotels lose money when they are not able to estimate the demand for their services. In order to avoid this problem, companies can use big data to get more real time information with greater frequency, so that they can make efficient and more progressive pricing decisions and customized capacity plans.

For example, the fare of one of the major international airline companies is very high for the services and comfort they offer.

They use various big data tools to add new destinations and connections based on the needs of their target market. Apart from this, they use big data to give optimum seat-price combination for each customer. Along with these pricing, this international brand has helped in becoming one of the best airline companies over the ten year period. Even for its high fare, people still prefer it over the airlines because of the needs they meet of their customers as they focus more on customer satisfaction. This example demonstrates the ability of large data, and how companies can benefit from it.

4.Problems of Big Data in Hospitality Industry

According to an industry report the hotel companies who can tackle big data and integrate into their business are said to create a competitive advantage over others with a possible probability of 55% and above. Even after all the problems faced by the hospitality industry isn't convinced to embrace big data because of the challenges involved in it.Hospitality industry is now focused on the data solutions for the problem like big data disasters to encryption and data analysis paralysis to keep scaling.

4.1 Data Disasters

The hospitality industry are keeping the data on the site servers and just relying on the onsite servers is really time consuming and at the same time it is also vulnerable. And if there is some problems in the server or if the servers goes out, it causes data loss and it enforces the employees to performs all the task manually. The situation gets even worse if the hackers get the server details and hack all the guest details which would include all the sensitive data and credit card information which will make the industry liable for all the leak and could cause a heavy loss to the industry.

4.2Encryption

It is almost next to impossible to handle your own data encryption and is referred by many as disaster waiting to happen. It is very difficult to be updated with malware threats and monitor all the malicious activities and stop hackers to crack the system. Meanwhile, cloud based data service can provide military grade security. The hospitality industries can focus on their bottom line while their data is being protected and processed and stored. The need for encryption doesn't stop at the time of hotel booking and hotel point of sale information as Wi-Fi is mandatory for personal and business use so the rise in malware attacks is highly probable.

4.3 Data Analysis

Huge amount of data captured by hospitality industry is wasted on customer loyalty program for example there is a loyalty program of make my trip which offers free nights and offers high amount of discount to the guest which help them in retaining them with the loyalty program. The hospitality industry should focus on different sectors in industry like attracting new guest and retaining the old ones instead of just focusing on the top layer of what guest are doing. This will help them is boosting the profits and guest relation

5. Proposed Solutions:

Solutions of these problems can be that the hospitality industry should began to occupy the in depth technology, especially when the big data is used for identifying the patterns and relationship between the data which can identify future needs and trends and can also identify the changing preferences of the customer for a world class experience

Now from this solution , the hospitality industry including different companies can customize their current product or can update their product or add new ones so that it can meet the customer expectation and due to this the industry and increase their demands and profit and this can again benefits the industry.

Now the problems arises where the big data can be used.it can be used in the following was so that it helps in increasing customer relation and satisfaction and can improve the overall efficiency for a better usage of data and making profits from the business which will also help the industry in increasing the profits.

5.1 Customized experience

Big data is used in the hospitality industry for giving a personalized and enjoyable travel experience to the customers every time. When the industry knows what the customer wants and what is desired from the past experience so that it can be changed accordingly. For example in a restaurant the owner knows what a regular customer wants from their past food experience and social media updates so by this the owner can provide different options to the customers. Such implementation by the owner will benefit him a lot and also benefit his restaurant. firstly the customers will now return frequently because he was satisfied and enjoyed their services and the most important part is that the customer will tell other people and will recommend other customers like family members and friend and due to this more customers will come to that restaurant and again this will benefit the owner because he will not spend any money on marketing

5.2 Building the right product and services

Now day's big data analytics is used in every company so that it can provide a better direction and guidance for their product and services and help them maintain better relations between customers. This helps firms grab a strong hold and good position in the market as compared to before to know if the product will be successful or not in the future, and will help them gain profits. Due to this guidance they can work on that product properly. for example in summers, the firm can invest on a particular flavor of an ice cream or cold beverages which are liked by majority of the population or can introduce some new flavors which are unique or can give new and exciting offers which can attract customers.

5.3 Discrete Approach

Big data can be used to achieve competitive edge over other companies. Here the major data tools may change from company to company whether it's newly arrived or well established as they will have same data. Hence firms can vary their insights and seize it.

For example- A waiter takes the supplementary drinks as soon as their daily routine customer goes away

Actually, big data can give solid impact on the hospitality company, Providing new pattern and insights which are not yet appeared. From this insights firms can provide better customized service, increase efficiency, achieve competitive advantage and customer satisfaction which leads to more monetary gains or profit for business,

however privacy of customers information need to be taken care of else it becomes sports business for both travelers and firms

Conclusion:

The Internet has changed our business very much, how we are looking at all the hospitality services and consuming it. Along with the changes, there have been new ways of measuring and measuring the needs and behavior of customers and guests. Now this day is better for customers, as well as their competitors. Apart from this, make these figures easier than ever to collect and integrate collect.

Big data shows a great opportunity for all customers and hospitality industry organizations and helps all industries compete with customers. This helped the industry with increasing competition. Creativity and the need for new flow of materials, as well as better understanding and satisfy customers

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