

DISRUPTORS IN HOSPITALITY INDUSTRY AND ITS IMPACT ON THEIR BUSINESS OPERATIONS

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ABSTRACT

Hospitality industry is one of the largest and fastest-growing industries around the world. In this industry, the basis for success depends on an innovative business model that can offer more than a room with a view. Customers are demanding personalized experiences and hotels are trying to satisfy their needs through technology, customer service, food, design and events. However, the disruption in the industry has changed the way business is being done. Many hotels are trying to keep up with the level of change by investing in new technologies and services, opening up trial shops, setting up mobile apps and integrating innovative payment methods. The current study aims at identifying the disruptors in the hospitality industry and its impact on their business operations. To arrive at this aim, the study has conducted a survey by sending a questionnaire to hotels in the Pune City, Maharashtra, India. The survey data was collected from 93 respondents, and it was analysed using the frequency count method to reveal the impact of disruptors on hotel operations.

Keywords: Hospitality, Technology, Disrupt era, Personalized experience

Introduction

Hospitality industry is one of the dynamic industries around the world. There have been many disruptions which have changed the way the industry operates. Many hotels are trying to keep up with the level of change by investing in new technologies and services, opening trial shops, setting up mobile apps and integrating innovative payment methods. As technology developments unfold at such relentless speeds – hotels and other hospitality setups have to keep up with the revolution. Accordingly, managers and directors should keep a tab on and track the below trends, which are not only the fundamental techniques to curb disruption in hospitality but have also brought forth a revolution.

Following are some examples of disruption:

Cloud or Software as a Service, or SaaS, is a popular topic in the hospitality industry when it comes to technology today. The same is being used quickly by hoteliers to automate repetitive tasks like hotel channel management and distribution. The Hunley Hotel & Golf Club is a good example of this. It moved its entire HMS (hotel management system) to the cloud to save money on IT and administrative costs. Also, it makes it easier to get regular updates within the app.

Mobility: Tablets and smartphones are the new way to use computers, and they have changed the way people check into hotels all over the world. For example, City Nites, a company that rents out serviced apartments, uses Apple iPads to connect to its hotel management system and get rid of old-fashioned, manual registration desk processes. This is a step toward making things more personal and lowering costs related to the front desk.

A personal touch: Sometimes, hotel guests expect their stay to be tailored to them. A hotel can do the same thing by using things like welcome messages, customised food menus, and extra services. This could lead to a lot of useful information about customer preferences that can be put into the hotel's PMS (property management system).

Social media has a big impact on the hotel and restaurant business. We all know that TripAdvisor has become an important place for travellers all over the world to get information. Other social platforms, like Facebook and Twitter, also have a big impact on how guests act. Hospitality Net says that social media is taking over the industry because there are more than 200 million reviews and opinions on TripAdvisor and more than 800 million active users who post updates and share photos on Facebook. From the point of view of managing a hotel's reputation, Best Hospitality Degrees says that these high-end customers have been known to take their complaints to the hotel's Twitter followers after trying other ways to get their problems fixed. This shows that disruption also comes with a lot of hope, which means that the travel and hospitality industries are about to go through a big change in the near future. This is a new way of thinking about the whole customer lifecycle, from making a reservation to leaving a hotel. So, instead of being disrupted by digital technology, hotels need to become digital disruptors themselves by giving their guests a unified experience.

The Internet of Things (IoT) and smartphones, which we've already talked about, have made it easier for customers to plan, book, and control travel from far away. This led to the demise of traditional travel agents, as shown by Thomas Cook's \$243 million loss in the first quarter of 2012. On the other hand, Airbnb closed a \$475 million funding round at a reported valuation of \$10 billion last year. However, less than a year later, the leader in the sharing economy was worth more than double, or \$25.5 billion. In 2013, Priceline paid \$1.8 billion for meta-search company Kayak. In 2014, SAP paid over \$8 billion for Concur, a company that makes software for managing business travel and expenses.

The current study aims at identifying the disruptors in the hospitality industry and its impact on their business operations. To arrive at this aim, the study has conducted a questionnaire to hotels in Pune City.

Review of Literature

Disruptive technologies are the key to innovation and growth in the hospitality sector. Any technology that can minimize costs and maximize revenues is a potential disruptor. These are the elements that can impact how hotels are run and deliver their services from sourcing for customers to check-in, room service, cleaning, laundry and even how much revenue it could generate from sale of restaurant menus or any other aspect.

According to Shankar (2020), traditional hospitality service may well be heading for disruption by new business models based on social media platforms such as Twitter, Facebook, YouTube etc., which will completely change the nature of customer service rendered by hotels. Shankar, in a paper presented at the International Journal of Business Research and Management, emphasizes that hoteliers may soon have to hire social media professionals to facilitate guest services. Under this scenario, guests could interact with their friends on social media platforms such as Facebook or Twitter to book hotels and traditional resort activities. This will also help hotel operators better understand their customers.

According to Juniper Investment Group (2019), disruptive technology is indeed a threat for the hospitality sector. The report clearly states that the travel industry is an easy target for disruption because of its large numbers. The travel market is expected to double from 2.2 billion trips in 2013 to 4.4 billion trips in 2020.

Disruptive technologies are causing sweeping changes in the travel industry by forcing hoteliers to rethink their business model and operations processes.

Jain (2019) mentions that private jet operators can enter a contract with hotels and get discounted rate for tickets when their customers book rooms there, thereby helping them drive incremental traffic and revenue, while enhancing customer experience all at once. According to the author, hospitality service providers can also offer private jet operators with a storefront in their websites to help drive incremental traffic.

According to Hotelmile (2019) disruptive technologies of the hotel industry include artificial intelligence, cloud computing, wearables, Internet of Things (IoT) and mobile apps. All these have had a widespread impact on multiple aspects of business processes and operations – from supplies and demand management to revenue management and marketing. More recently, blockchain technology has emerged as a disruptive technology that can be used across several processes in hospitality operations. The report also states that while some customers prefer to get everything, they need done in one place (for example, booking a package that includes accommodation, tickets, and transport both within India and abroad), others may want to search across different hotels (or even cities) for the right deal.

This can be a problem for service providers as their ability to serve customers has been restricted by their operating costs.

Kalbag (2022) explains that AI-powered technology has the potential to disrupt the eCommerce industry. The report states that AI can lead to significant customer loyalty and reduce customer acquisition costs. According to Kalbag, it will be possible for eCommerce companies to offer their customers personalized recommendations that represent real-time value for them. He also talks about how AI can allow companies to offer a more personalized service by talking about events (such as special promotions) based on a customer's interests. This is something that has historically been difficult for companies as most data about customers was managed manually.

The hospitality sector is approaching a point where it needs to catch up with the disruptions that are already happening in other industries (Nizam,2022). It is believed that AI can be used in many ways in hospitality. From managing guest reservation and payment to delivering a more personalized service, there are many applications

of this technology. The report also states that AI can lead to significant customer loyalty and reduce customer acquisition costs. According to Nizam, it will be possible for eCommerce companies to offer their customers personalized recommendations that represent real-time value for them. He also talks about how AI can allow companies to offer a more personalized service by talking about events (such as special promotions) based on a customer's interests. This is something that has historically been difficult for companies as most data about customers was managed manually.

Companies are looking to take advantage of disruptive technologies by using them to improve their business operations. These technologies will have a substantial impact on the hospitality sector in the future and thus, hoteliers must be prepared to embrace it during the next five years (Ankit, 2022). He believes that artificial intelligence-based innovations are already altering the way hotels interact with guests. This is changing their entire business model.

AI can add value to the hotel industry by allowing it to use data more strategically and allowing it to provide better service for its customers. This will in turn help improve the user experience, which will increase the likelihood of repeat business. According to Ankit (2022), AI technologies can also be used in risk management processes. This will ensure that all aspects of the business are under control.

Demand management systems have transformed the hospitality market because they allow hoteliers and other high-demand service providers to meet a growing demand for accommodations with many more customers now choosing these services over others, says Agarwal (2022). It is believed that AI can enable hoteliers to present a more personalized service. AI has the potential to improve the user experience and it can also help hotels to remove complexity from their operations and make them more efficient.

Such technologies will have a significant impact on the hospitality industry especially in today's highly competitive market where there are plenty of competitors offering attractive deals (Vijayan, 2022). It is believed that AI will provide insight for hoteliers about what their customers prefer; it will also help them to offer relevant information about their property at all times.

Many hotel owners don't have access to the right data and most of them also don't have any experience in how to use AI (Kumar & Ravi, 2022). The research must make sure they are open to learning new things so that they can take advantage of technologies such as AI and the cloud.

Rajan (2021) believes that AI will be used in predictive maintenance and analytics. He explains that it will not just help predict breakdowns and take preventive actions, but it can also help to monitor the health of assets. The real-time data analytics would enable hotels to predict the performance of their assets and give them recommendations on how they can improve the overall quality of operations in terms of maintenance.

AI technology has already transformed the hospitality industry in many ways (Rajput, 2022). But it is still just a disruptive technology; there are many applications which have yet to be discovered.

Overall, there is less research on the hospitality industry and its impact in terms of technology, customer service, food, and design. Several researchers have focussed on the hospitality as a whole and some research studies have investigated the customer perception of hotels. However, there is a need to study the impact of disruption in the hospitality industry and its effect on businesses operations. The impact of disruptors on hotel operations has not been much studied in India. The purpose of this study is to identify the disruptors used by hotels in Pune City, Maharashtra and its overall impact on hotels business operations.

Objectives of the study

1. To find out the level of disruption in the hospitality industry.
2. To study the impact of disruptors on business operations.

Hypothesis

H1: There is a high level of disruption in the industry.

H2: There is a severe impact of disruptors on business operations in the hospitality industry.

Methodology

Following methodology was designed for the study to collect primary data.

- a. Identify a sample of 93 hotel managers from Pune City, using convenience sampling. The hotels which were chosen for the same purpose included hotels that are 3 star, 4 star and 5 star hotels in Pune City.

- b. Design and validate a (minimum 10-point) questionnaire for ascertainment of level of disruption.
- c. Seek responses on a 5-point agree-disagree scale.
- d. Conduct the survey.
- e. Summarize the responses.
- f. Analyze the results.

The study was conducted across Pune City.

Scheme formed for testing of hypotheses

- a. Responses were collected under 2 sections:
First section of the questionnaire was dedicated to the profile information of the managers
Second section: level of disruption and impact of the disruptions on the business operations of the hotel.
- b. For each of the sections an average was calculated.
- c. Percentages to questions under a particular section of the questionnaire were averaged to get a single score for that section,
- d. P-values were calculated, and the null hypotheses was checked for rejection or non-rejection.

Data Analysis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years	2	2.2	2.2	2.2
	31-40 years	9	9.7	9.7	11.8
	41-50 years	48	51.6	51.6	63.4
	51-60 years	34	36.6	36.6	100.0
	Total	93	100.0	100.0	

Table no 1. Age of respondents.

From the above table can be seen that 51.6% of the respondents were belonging to the age group of 41 to 50 years. 36.6% of the respondents belonged to the age group of 51 to 60 years. 9.7% of the respondents were belonging to the age group of 31 to 40 years whereas only 2.2% of the respondents were belonging to the age of 18 to 30 years.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	86	92.5	92.5	92.5
	Female	7	7.5	7.5	100.0
	Total	93	100.0	100.0	

Table no 2. Gender of respondents.

92.5% of the respondents were male and only 7.5% of the respondents were female. The table shows that there is domination of male members as far as the hotel managers are concerned.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	6	6.5	6.5	6.5
	6-10 years	18	19.4	19.4	25.8
	11-15 years	58	62.4	62.4	88.2
	16-20 years	8	8.6	8.6	96.8
	Above 20 years.	3	3.2	3.2	100.0
	Total	93	100.0	100.0	

Table no 3. Years of experience.

The above table shows that 62.4% of the respondents had an experience of 11 to 15 years. 19.4% of respondents had an experience of 6 to 10 years and 8.6% of the respondents had experience of 16 to 20 years. This shows that the study has considered the respondents belonging to different levels of experience. This adds to the overall reliability of the study.

	Not Disruptive at all.		Less Disruptive		Averagely Disruptive		Fairly Disruptive		Most Disruptive	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Mobile Apps	2	2.2%	1	1.1%	10	10.8%	41	44.1%	39	41.9%
Automation Technology	20	21.5%	9	9.7%	2	2.2%	31	33.3%	31	33.3%
Internet of Things (IoT)	10	10.8%	24	25.8%	30	32.3%	21	22.6%	8	8.6%
Technology Firms	16	17.2%	39	41.9%	28	30.1%	7	7.5%	3	3.2%
Drones	0	0.0%	30	32.3%	53	57.0%	6	6.5%	4	4.3%
Artificial Intelligence (AI)	9	9.7%	7	7.5%	20	21.5%	40	43.0%	17	18.3%
VR (Virtual Reality)	3	3.2%	25	26.9%	51	54.8%	7	7.5%	7	7.5%
Cloud Computing	0	0.0%	30	32.3%	54	58.1%	3	3.2%	6	6.5%
Digital Signage	6	6.5%	6	6.5%	34	36.6%	33	35.5%	14	15.1%

Table no 4. Disruptive technologies.

From the above table it can be seen that 44.1% of the respondents stated that mobile apps were fairly disruptive whereas 41.9% of the respondents stated that mobile apps were most disruptive. This is because of the growing penetration of cell phones among customers of all age groups and ethnicities.

	N	Mean	Std. Deviation	Std. Error Mean
Mobile Apps	93	4.2258	.84864	.08800
Automation Technology	93	3.4731	1.55753	.16151
Internet of Things (IoT)	93	2.9247	1.12517	.11667
Technology Firms	93	2.3763	.96587	.10016
Drones	93	2.8280	.73164	.07587
Artificial Intelligence (AI)	93	3.5269	1.16648	.12096
VR (Virtual Reality)	93	2.8925	.87802	.09105
Cloud Computing	93	2.8387	.77024	.07987
Digital Signage	93	3.4624	1.03797	.10763

Table no 5. One-sample statistics.

The above table shows that the Mobile apps have the highest mean. These averages were calculated through Likert scales of five where one was for not disruptive at all, two was for less disruptive, three was for averagely disruptive, four was for fairly disruptive and five was for most disruptive. One Sample t-test was conducted with a test value of three (3 was for average disruptive) a mean value of three indicated that a particular technology or element was averagely disruptive.

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Mobile Apps	13.930	92	.000	1.22581	1.0510	1.4006
Automation Technology	2.929	92	.004	.47312	.1523	.7939
Internet of Things (IoT)	-.645	92	.520	-.07527	-.3070	.1565
Technology Firms	-6.227	92	.000	-.62366	-.8226	-.4247
Drones	-2.268	92	.026	-.17204	-.3227	-.0214
Artificial Intelligence (AI)	4.356	92	.000	.52688	.2866	.7671
VR (Virtual Reality)	-1.181	92	.241	-.10753	-.2884	.0733
Cloud Computing	-2.019	92	.046	-.16129	-.3199	-.0027
Digital Signage	4.296	92	.000	.46237	.2486	.6761

Table no 6. One-sample test.

In the case of mobile apps, automation technology, artificial intelligence and digital signage the mean differences are positive. This shows that these technologies cause major disruptions and can have an impact on the way the organisation does its operations. The first hypothesis that says “There is a high level of disruption in the industry” is accepted.

	No Change at all		Less Changes		Average Changes		Fair Changes		Maximum Changes	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Bookings	0	0.0%	23	24.7%	38	40.9%	19	20.4%	13	14.0%
Housekeeping	9	9.7%	11	11.8%	43	46.2%	20	21.5%	10	10.8%
Front Desk Services	3	3.2%	28	30.1%	52	55.9%	4	4.3%	6	6.5%
Maintenance	0	0.0%	23	24.7%	39	41.9%	18	19.4%	13	14.0%
Accounting	9	9.7%	11	11.8%	44	47.3%	20	21.5%	9	9.7%
Marketing & Sales	3	3.2%	28	30.1%	55	59.1%	4	4.3%	3	3.2%
Kitchen Staff	0	0.0%	17	18.3%	49	52.7%	20	21.5%	7	7.5%

Table no 7. Impact of disruptive technologies on different functions.

20.4% of the respondents stated that due to the disruptive technologies, there were fair changes the way bookings were made or acquired. 14% of the respondents stated that there are maximum changes in the way bookings happen due to the disruptive technologies. 21.5% of the respondents stated that the disruptions resulted into fair changes in the way accounting was done. Overall, bookings, housekeeping, front desk services, maintenance, accounting, marketing and sales and kitchen staff all have been affected to a great extent due to the disruptions in technology.

	N	Mean	Std. Deviation	Std. Error Mean
Bookings	93	3.2366	.98243	.10187
Housekeeping	93	3.1183	1.07187	.11115
Front Desk Services	93	2.8065	.83741	.08684
Maintenance	93	3.2258	.97945	.10156
Accounting	93	3.0968	1.05361	.10925
Marketing & Sales	93	2.7419	.73578	.07630
Kitchen Staff	93	3.1828	.82021	.08505

Table no 8.one-sample statistics.

The above table shows that in most of the cases the mean is about 3.0 which indicates that there are more than average changes that have taken place due to the implementation of disruptive technologies. A one Sample t-test was used with a test value of three which was for average changes. Following were the results of the one Sample t-test.

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Bookings	2.322	92	.022	.23656	.0342	.4389
Housekeeping	1.064	92	.290	.11828	-.1025	.3390
Front Desk Services	-2.229	92	.028	-.19355	-.3660	-.0211
Maintenance	2.223	92	.029	.22581	.0241	.4275
Accounting	.886	92	.378	.09677	-.1202	.3138
Marketing & Sales	-3.382	92	.001	-.25806	-.4096	-.1065
Kitchen Staff	2.149	92	.034	.18280	.0139	.3517

Table no 9. One-sample test

In 5 out of 7 cases, it can be seen that the mean differences are positive which shows that above average changes were required to be made in the various operations due to the numerous disruptions that happened in the industry. With this we also accept a second hypothesis which states that “there is a severe impact of disruptors on business operations in the hospitality industry.”

Conclusions

Following are the major disruptors in the hospitality industry:

1. Mobile Apps- mobile apps are playing a vital role in the hospitality industry. Customers today look for information and booking tickets on their mobile phones and apps provide the solution.
2. Automation technologies facilitate self-service at hotels, giving customers the freedom to order items without waiting to speak to an attendant.
3. Internet of Things (IoT)- this is a revolutionary technology that allows multiple devices and sensors to share data via networks or Internet, allowing them to connect resources through sensors/ appliances/resources which can be automated as well as monitor for changes.
4. Technology Firms- technology firms provide clients a variety of products that offer a personal service to clients.
5. Technology Disruptors- disruption makes way for new technologies and services in the market. These disruptors make the business run smoothly and provide room for competitive advantage for other organizations.

Following are some of these disruptors in hospitality industry:

1. Drones (Helicopters)- Drones are used by hotels to survey the terrain, allowing them to open new areas such as mountaintop, sea and even space travel
2. Artificial Intelligence (AI)- AI is used by hotels to help manage their business operations, understand customers' needs and make improvements to their services
3. Robots- Robots are used to take care of human tasks, hence taking care of all kinds of tasks like cleaning rooms, vacuuming and so on.
4. VR (Virtual Reality)- provides guests an immersive experience and enables them to create a personal memory or even become part of the story that the hotel is recounting. This helps make the customers feel as if they have travelled to the place in real life.
5. Cloud Computing- cloud computing allows users to store data, play games and even run applications remotely. It makes information available anytime, anywhere and on any device with internet access.
6. Digital Signage- it displays information, services, and marketing tools on digital devices in public areas such as airports, malls and hotels. This also provides personalized information based on previously stored data.

Based on the survey conducted in the hospitality industry, it can be concluded that disruptors are taking over existing business models and introducing new technologies in the industry. The efficiency of hotels is increasing at a faster pace with the introduction of these technologies thus making it a more profitable venture.

Recommendations

It is essential for the hospitality industry to utilize these disruptions to their advantage. These disruptors are changing the way hotels run their business and therefore, they need to adapt to these changes and make innovations accordingly.

Hotels and resorts also need to adapt to these disruptive changes:

1. Incorporate new technologies into the business models of hotels, resorts and hospitals for better customer service and efficiency.
2. Formulate a plan for customer segmentation to ensure that each customer gets the right experience according to their needs or expectations.
3. Use data to make improvements according to the trends and predict future demand in the market, thus ensuring profitability and stability of business operations in the hospitality industry.

4. Formulate a master plan that will show how you can cater more efficiently to all your customers' needs through technological innovations.

It is essential for the hospitality industry to effectively differentiate themselves from their competitors to draw more customers. In this regard, the study concludes that the use of disruptive technologies will help serve customer needs thus providing a competitive advantage for these organizations.

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