Sonargaon University



A Thesis on

"The Impact of technology on profitability: A study on hotel sector"

Submitted To:

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Letter of Transmittal

7th January,2025
Prof. Md. Al-Amin Molla
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Subject: Submission of Thesis Report

Dear Sir,

I am very pleased to work on the project, '**The impact of technology on profitability: A study on hotel sector'** under the supervision of yours. This report has been made to fulfil the requirement of the degree of MBA. I have not left any stones unturned to achieve the standard of this type of report under your valuable direction. This report is the result of my study of various researches on this topic and my academic knowledge that I gained from studying at Sonargaon University.

I made every endeavour to prepare this report and put my best effort to gather relevant information for constructing a complete report that will meet the standard as outlined. I hope that the report will serve its purposes.

I, therefore, pray and hope that your honour would be kind enough to oblige me by accepting my report.

Yours faithfully,

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Declaration

I, Abdullah Al Faruque, hereby declare that the research work entitled '**The impact of technology on profitability: A study on hotel sector'** submitted to the Department of Business Administration is a record of an original work that is done by me under the supervision of Prof. Md. Al-Amin Molla, Professor & Dean, Department of Business Administration, Sonargaon University. This project work is submitted in the partial fulfilment of the requirements for the award of the degree of Masters of Business Administration (MBA).

The results embodied in this report have not been submitted to any other University or Institute for the award of any degree or diploma. I also confirm that this report is uniquely prepared by me with providing a lot of time.

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Certificate of Acceptance

This is to certify that the thesis report on '**The impact of technology on profitability: A study on hotel sector'** submitted for the award of the degree of Masters of Business Administration from the Department of Business Administration, Sonargaon University, is a record of research carried out by Abdullah Al Faruque, student of Department of Business Administration, under my supervision. No part of this report has been submitted for any degree, diploma, title or recognition before.

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Prof. Md. Al-Amin Molla
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Acknowledgement

The success of this report depends on the contribution of number of people especially those who gave their time to share their guidance and suggestions to improve this report.

For the completion of this study, I do not deserve all the praises. There were many people who helped me by providing valuable information, advice and guidance for the completion of this report in the scheduled time. However, at first, I want to express my gratitude to Almighty Allah for giving me the strength and the composure to finish the task within the scheduled time.

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Then, I would like to thank those authors who have published their research work on different journal and made them accessible to the general people. Those articles helped me to gather proper knowledge about the study and helped me to carry out my one.

The people who have participated in my survey from their valuable time also deserve my gratitude. Without the cooperation of those people, the report would not be completed within the scheduled time.

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Abstract

Information Technologies have made significant contribution towards the development of travel and tourism industry. It has revolutionized the travel and tourism industry and changed the competitiveness of hospitality organizations. Travel and tourism industry have developed dramatically in the last decades. The rapid expansion of both tourism supply and demand have made modern technologies an absolute partner of the tourism industry.

Since technological items change rapidly over time, the purpose of this study is to analyze the impact of current technologies and to assess the potential of the latest technologies on customer experience. A questionnaire was made to reveal the customer perception. The respondent's numbers were 150. Most of the people support the notion that keyless entry (by using smart card or simply mobile phone) is expected to increase in coming years. Guests might need to install the app of the property in their phone, later this app can be used to unlock the room. Almost three-fourth of the respondent viewed Wi-Fi access as a necessity service in the hotel room. This implies the significance of advanced technologies in satisfying the customer and operating a profitable business.

Keywords: Technology, upscale hotels, customer experience, online booking, technological amenities, customer satisfaction.

Introduction

Travel and tourism is increasing rapidly in the 21st century. There is no debate about the fact that the most influential factor behind this rapid growth is the widespread use of digital technology which is well supported by revolution of the use of internet. Customer's demands are changing. Like other sectors tourism also have to face the consequences of the change in customer demands and expectations. Technology is shaping the demand of the customers, so tourism institutions have no other way but to embrace the changes in modern technology.

The necessity to improve the service quality and efficiency of hotel leads to the acquisition of modern technologies (Liat et el, 2017). Customers are using smart phones and modern technologies so they are increasingly aware of what other hotels are offering. Customers are

well informed. They can compare prices and features offered by competing hotels. This has given them bargaining power as they are able to analyze data in real time. Many authors also stated the significance of proactively incorporating information technology into their normal service framework to improve the quality of service they are offering.

If the technology is easily useable it can create positive customer attitude and subsequently it will lead to increased use of the technology (Lu et al, 2015). Customers want innovative experience in this modern era. Tourists seek destination that can fulfil their technological need. To provide this innovative experience to customer, hotel establishments are designing their property with equipment that are more technologically advanced (Neuhofer et el, 2015). As technology is evolving day by day successfully implementing modern technological innovation in the tourism and hospitality industry is crucial.

The transformation of service environment has occurred dramatically by the means of innovative technology and by the use of sophisticated business models (Hui & Ling, 2016). Once technology is well incorporated within the policy framework and normal business standard, there is no way an organization can still resist the change and stay within its comfort zone. Resist to apply modern technologies within its system can greatly undermine the business capability of the hospitality institution.

Human component of the travel and tourism industry can be replaced by using technology mainly converting human labor into technological labor. This conversion not only allows a hospitality institution reduce their existing labor cost but also significantly reduce issues related to customer service. In what extant the technological factor will combine with human factor of an institution depends solely on the wish of the higher authority of the institution. The use of internet throughout the world has further contributed to the demand of advanced technologies.

In the late 1990s the genesis of the Internet and the World Wide Web in particular revolutionized communications. The result is that most of the tourism organizations and destinations had to revisit their overall strategic management policy and marketing and to redesign their policies and practices of the hotel. As technology is shaping the customer demand in this modern era acquiring modern technologies has become a priority for hotel all over the world.

Objective

The main objective of this article is to determine the impact of modern technology on the profitability of hotel sector. Technology is shaping this modern hospitality sector. Hospitality sector is also experiencing the growth of advanced technologies in this sector. The main objectives of this thesis are-

1) To determine the impacts of technologies on the profitability of hotel sector.
2) To understand the impacts of technologies on providing personalised service to guests.
3) To identifying the challenges when implementing modern technology.

Literature Review

In this modern era information and communication technology has become part and parcel of our life and it has been considered as a heart of tourism and hospitality industry especially in the hotel sector (Salman et al, 2017). Renowned scholars throughout the world have been considering the implication of innovation and provided considerable attention on the implications of modern technologies on travel and tourism industry for the past 25 years (Pencarelli, 2020). Tourism and hospitality industry's innovation generally takes a unique element of service innovation not like product innovation (Hameed et al, 2020). New services such as replacing key card with phone, online booking using mobile device, using mobile for self-check-in, distinctive tags for electric luggage, VOIP phones (voice over internet protocol phones), guests gadget connectivity tools, boarding passes using Smartphone etc (Wang et al, 2014).

Hotels and restaurants are now more and more concerned about getting the updated information of their potential customer. More and more people are now getting accustomed to modern technologies, and web server logs capture a vast amount of data (Arora and Goyal, 2016). If those data are carefully extracted and evaluated, it will create an enormous potential for competitive advantage for any hospitality enterprise. Assessing the factors of external environment and taking advantage of those factors will allow an organization to not only

sustain in hard times but also to gain advantage during economic hardships (Tuzovic and Kabadayi, 2020).

Innovation in tourism and hospitality industry is always changing. Reacting to those changes will create competitive edge. Success in the industry demands Proactive implementation of the modern technologies. Hotel and restaurants should strive to implement modern techniques to create high customer value that will eventually create high guest loyalty (Cha, 2020). Effective use of modern technology has the ability to create highest customer satisfaction (Moghaddasi and Heidari, 2019). It can also create positive reputation for the hospitality institution and those positive forces can certainly drive towards more economic stability.

Technology is a critical factor that determines the satisfaction of guests in the hotel. Technology is used by the hotels as a value-added amenity that can be used to promote differentiation of the service and enhance guest satisfaction (Brochado et al, 2016). The satisfaction of customer is closely linked with the quality of service they have been offered. Once service is differentiated, it would be very easy for the hotel to position itself into the competitive market and get customer attraction.

The concept of revenue generating mechanism on part of the owners and hotel operators is bound to change as the customers they are targeting have already adopted those modern technologies into their lives. If the owners are still reluctant to adopt new technologies are sure to fall on a financial crisis today or tomorrow. On the other hand, investment in innovation can provide enormous benefits to the hospitality sector and help to overcome the crisis (Breier et al, 2020)

The use of technological innovations is increasing day by day in hotel industry. The increase of productivity and reduction of cost can be achieved by smart investments on technology related modern equipments. If modern technologies are implemented after conducting proper market research, it can certainly demonstrate the empathy of the service operators towards the customer .Apart from those facilities traditional can also add value to the products and services offered to customers (Buhalis et al, 2019)

The first thing that comes to the mind of customer is whether it will have value against the money they are paying. When customers are assured they are having a high value proposition and getting access to modern technologies, the need for this product or service is bound to arise in customers' minds. Serving tradition facilities to those customers will no longer create competitive advantage. That's where the modern technologies can be proved advantageous to

the hospitality industry operators. Innovative hotel operators are continuously responding to those changes in the customer's manner and supplying the technologies according to the need of the customers (Ivanov, 2019)

Adaptation of modern technology poses both opportunities and challenges. Many difficulties will occur in the time of implementing modern technologies. Employee's capability and enthusiasm, customer's perception and attitude along with managerial support are some form of barriers (Al-Hawari et el, 2019). Obstruction from owner, reluctant to change, upgrading cost, training facilities to use upgraded technologies, pace at which technology is advancing and constraints of time and budget are also some factors that needed to be addressed when implementing advanced technologies (Bilgihan et al., 2015).

Service quality of the hotel technology is also allows a hotel or institution to get competitive advantage. Customer centric e-hospitality will require hospitality organizations to adopt modern technologies to be able to attract customers and remain competitive in the fierce market (Buhalis and O'connor, 2005). Technology doesn't remain constant for a long duration of time; it normally changes as time goes. New technology takes the place of old technology. As it is changing time to time, hospitality institution invests a lot of time and money to make sure that they are not lagging behind and they have the latest technology to offer to their guests (Kuo et el, 2017).

Research Methodology

This research is designed to analyze the Impact of modern technologies on the performance and profitability of hotel sector. This is a quantitative research where two variables named independent and dependent variable has been assumed. The independent variable is the impact of technology and the dependent variable is the profitability of the hotel sector. Most emphasis was given to understand the role of modern technologies in creating greater customer satisfaction which in turn increases the profitability of hospitality institution.

Research instrument

At first a questionnaire is developed to understand the perception of the customers. In the questionnaire the income of the respondent is asked first to determine his or her affordability

of advanced technologies in hotel. Then different questions will be asked to them to assess how they perceive modern technologies in the hotel. The questions will be asked using Google form. Likert scale method is used so that they can range their reply from extremely agree to extremely disagree. They are allowed to stay neutral if they don't support or oppose any statement.

Data collection and analysis tools

The primary sources are follows*:* The proposed survey through the questionnaire is the main primary source. I intended to collect data from 150-200 respondents to get clear view from their perception. In this modern era, people tend to do the interaction with strangers in online platform. It is convenient for both the respondents and the person who is conducting the research. For this reason I collected data in online through Google form where the respondents can express their view based on the questionnaire provided in the Google form.

The secondary sources are follows: Newspaper, article, journals are used as secondary sources. In literature review the concepts of many renowned scholars are adopted. For the current statistics, data from famous hotel groups are collected and analyzed. Data are also collected from different websites and blogs. As the topic address the current technological changes and their impact on profitability, opinion of different pundits have also been taken as a source of secondary data.

Data analysis tools*:* The Statistics Packages for the Social Science (SPSS) will mainly be used to analyze data. Frequency table, correlation, regression etc. are done by using SPSS software. Google form presents the summery of questionnaire responses in graphs. Those graphs we're also used as an analysis tool. SPSS allows the researches to find out the correlation among the questions asked to the respondent. Microsoft Excel is also used to show the frequency distribution.

Hypothesis statement

Hypothesis statement is developed before the actual data collection process The following hypotheses are determined in advanced and will be analyzed through the survey. The hypotheses are

Null hypothesis (1): Online booking and Wi-Fi availability have no relationship with each other

Alternative hypothesis (1): 'Wi-Fi availability has positive impact on online booking' will be the alternative hypothesis.

Null hypothesis (2): Acceleration of keyless entry system is not related with the introduction of robotics in the hotel sector.

Alternative hypothesis (2): Acceleration of keyless entry in hotel room will have positive impact on the introduction of robots in hotel industry.

Limitations of the study

The data were collected on online by using Google form. It was not possible to physically interact with the respondents. The questions were asked by using Likert scale mechanism. It is very advantageous to get clear answer by this tool but the respondent cannot fully express their views beyond the questions asked on the questionnaire. It will be certainly a drawback in the research. A question was asked on the impacts of robotic on the hotel sector. It was hard for the respondent to clearly understand the concept of robotic and it had impacted their response.

The information which I was getting from different sources might not be adequate. Some of the research paper was not accessible for free. So they were creating some problems

Impact of technology on hotel

It is the belief of the hoteliers that a mobile device would be helpful for them to establish a conversation between the guest and the hotel management, which will be used as a mechanism to create person relationship and boost guest loyalty. Personalization concept is not limited to providing a service wanted by customer rather it indicates providing service in way they prefer it and providing it at the time according to their wish. This may involve information about guest preferences are provided to the room attendants so that personalization of each room features are done more effectively for every guest or in the check-in time of a VIP guest managements are automatically alerted which will allow them to personally greet the guest.

According to the American Hotel and Lodging Association survey, hoteliers with more than ten years of industry experience identified increasing guest satisfaction (82.4%), increasing employee efficiency (79.9%) and generating revenues (71.3%) as the primary goals for the use of information technology (Choudhary R., 2013). Therefore, technological amenities are normally introduced in this industry to improve the performance of the hotel staff, allowing them to work with more efficiency and also to enhance customer satisfaction (Collins & Cobanolgu, 2008). Many hotels use technology as a value-added amenity to help create differentiation, enhance guest satisfaction, and build loyalty among customers (Cobanoglu, Ryan, & Beck, 1999).

The impacts of technology on hotel sector are discussed below-

Technology enhances efficiency*:* Hotel managements are committed to reducing energy usage and making their programs more environmentally sustainable. Starwood is committed to reduce energy usage by 30% along with reducing water usage by 20% by 2020 globally. They are striving to meet those goals they had set in 2009. The hotels and resorts of Starwood adjusts their lighting of interior portions based on how much natural light enters from outside (Soule 2015). They also use motion sensor technology which automatically turn off lights or reduce room temperature if the room is unoccupied.

Online Bookings: Travel Expedia, make my trip, kayak etc. are some of travel sites which allows customers to get the best deals according to their budget. This is very good for the customers as they can use the information and get the services at lowest price if they are

buying at last moment. It is advantageous to guests but present great competition among hotel operators. They have to offer services keeping in mind what their competitors are offering. If their service quality fall shorts than others or charged higher then it will create a negative impression on customers. So hotel operators have to turn to technology to innovate their services and differentiate it from their competitors.

Automated check-in and check-out process*:* The traditional check in and check-out process is very lengthy and a source of dissatisfaction for guests. It creates inefficiency in the management. In order to be more efficient automated check in and check-out process is introduced where mobile phone will be used as a tool to check in. It will enable the staff to concentrate more on experience. When a guest enters into the hotel lobby the staffs of Andaz West Hollywood greets them at the lobby and assigns particular stuff to seat with them at the couches with an iPad to complete the check in. They usually carry credit card reader for completing payment related issues.

Sometimes guest faces problem in unlocking the room with the key so they have to come to front office to get a replaced key. To remove this hassle Andaz West Hollywood has placed kiosks in every elevator bank from where guests can easily solve their problem. Oracle has surveyed to find out guests desire of online booking and found out that still 60% guests prefer getting their bookings done in front office with physical interaction with front desk stuff (Carter, 2017). For this reason hotel will have to determine the optimum balance between using technology and having people interaction to get maximum customer attraction and ensure highest bisiness revenue and sufficient rate of return of the investors money.

Smart TV: When guests enter the hotel room guests are already accessed to in-destination activity choices. Hotels and local business entities can collaborate with each other to provide a direction to the most popular places, shows and best restaurants for the guests to explore the surroundings outside the hotel. All the services the hotel offers can be shown in the shown in the in-room TV screen.

Wearable tech*:* Now-a-days guests are accustomed to modern technology thanks to the surge of internet of things (IoT). The automation of in-room facilities has the potential to increase the comfort limit without the necessity of much human interaction. Gusts would like to turn off light or schedule cleaning without the necessity to interact with hotel stuff or other human being. The energy usage by unoccupied can simply be reduced by using modern technologies. Smart TV protocol provides the solution where the complex structure and integration cost can be reduced significantly.

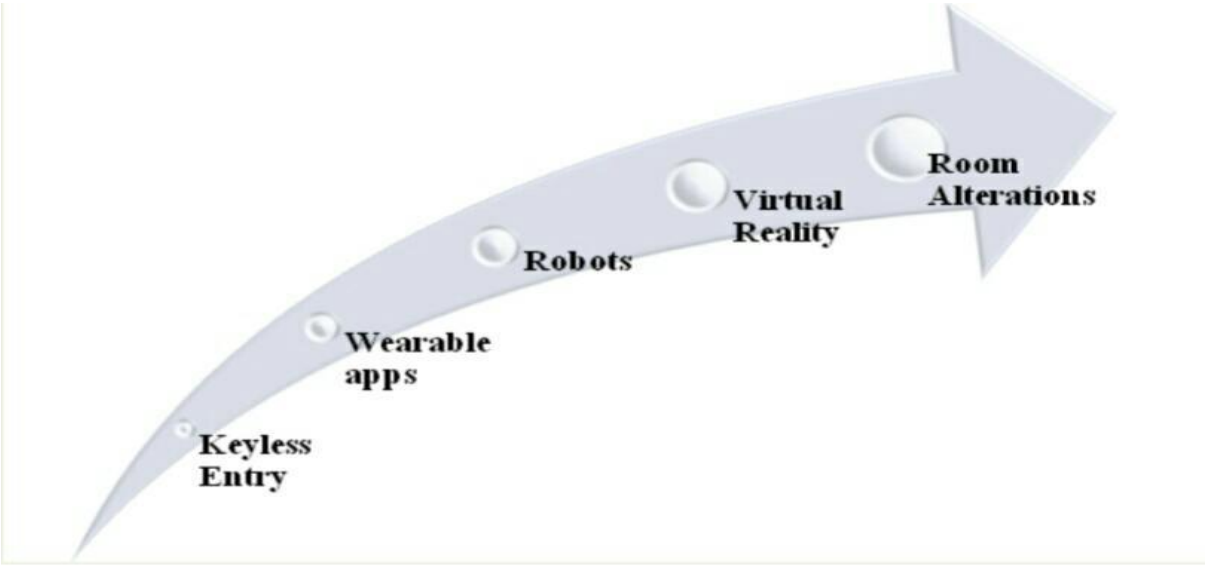


Fig. 1. Evolution of new technologies in hotels since 2014 (adapted from Euromonitor, 2015)

Smart watches: The introduction of Apple watch has created another form of wearable technologies. Starwood hotels and restaurants preferred the release of Apple watch App which allows the tourists to forget about their room keys and only concern about making their trip a memorable way and cherish those memories for the rest of their lives and spreads the positive word of mouth for the hotel. Of course, other forms are still available. Many hotels throughout the world are providing iPads to their guests during their stay. Guests can use this iPads for entertainment purpose and they can use this device for communication with the hotel management.

The robotics trend in hotels*:* On the Americas Lodging Investment Summit, predictions for the growth of hotel robots to deliver guest amenities and clean rooms were made (Carter, 2017). If predictions become reality, the guest might just find Maidbots cleaning his/her hotel

room in the next five years. Investment into these types of technological innovations is fuelled by decreasing technological costs, which at the same time provides hotels with the opportunity to reduce operating costs.

There were not many entertainment opportunities in the past but in this modern era the situation is rapidly changing and customers have many entertainment opportunity options at their own fingertips. Their expectation of the hotel have group and they expect the hotel to offer the amenities they use in their own room if not providing greater amenities (Guttentag and Smith, 2017). Guests normally use technologies like high-speed Internet connection, high-definition Television, digital entertainment devices and VoIP in their day to day lives. Many hotel guests think of a hotel as a home away from home (Bilgihan, 2012). Hotel needs to provide service to the guest in such a way that can fulfil those expectations.

The complex relationship among Technology, Productivity and Service Quality

When modern information management technologies are implemented, the managers do not necessarily think of improvising the productivity of their service rather they just focus on increasing customer service level and enhance the number of service offered (Setia et al, 2013). It creates complex relationship among Technology, productivity and service quality. In acquiring modern technologies a hotel must at first invest a huge amount of money on the investment process. Huge investment for any modern equipment in hospitality sector is not done suddenly. A direct analysis is done at first to determine its impact on the overall profitably of the hotel and its ability to increase operational efficiency of the hotel. This investment does not necessarily results in direct profit for the hotel. So as operating expense increases it obviously affects the net profit for the hotel.

Technology is a critical factor that determines the satisfaction of guests in the hotel. Technology is used by the hotels as a value-added amenity that can be used to promote differentiation of the service and enhance guest satisfaction (Brochado et al, 2016). Once service is differentiated, it would be very easy for the hotel to position itself into the competitive market and get customer attraction. After experiencing modern technologies the guests will not fully like the previous means of service that don’t have modern touch on it.

Guests are getting used to the modern technologies and they are favouring the commitment of the management of the hotel towards the technological amenities. When modern technologies become industry standard every hotel then have to invest on technologies so why not just invest it now and show the customers that they are customer centric organization and always focus on the welfare of the customer during their stay on the hotel.

Customer service quality and application of modern technologies go hand in hand (Berchoux et al, 2015). However, the use of technology doesn't indicate that the business no longer requires personable customer service representatives for nurturing customer relationships. That form of one-on-one relationship and direct customer interaction is more significant than ever, and technology can facilitate us to make it more efficient. The most important contribution of modern technology in customer service is that it facilitates to increase the overall speed of customer interactions in a dramatic manner. The more speed in customer service means that customers have to wait less amount of time for service than the previous encounters and it also allows the hotel to serve more customer in a definite time period. Customers are no longer required to wait and hold on to the phone to speak with a representative. Instead, live chat on company websites enables organizations to help customers as soon as they show interest.

Hotel of the future - technological trends

The hotel of the future will be completely personalized, using customer's preference data and advanced customization technology (Doyle, 2014). According to a study with 600 respondents, 95% of guests expect that "hotels will increasingly look to new technologies to drastically increase efficiency, reduce costs, personalize the customer experience and improve service" (Talwar, 2012). In order to improve guest experience some technological amenities are being tested and introduced in a few hotels worldwide and others are upgrading to follow the technological evolution and guest expectations.

The role of some in-room technological amenities is changing, like TVs. Modern digital travelers want to use the entertainment at hotels in the same way they do at home, through online services with their own devices, tablets or laptops. It is, therefore, increasingly likely that customers will pay less attention to an in-room TV (Horner, 2013).

In 2011, an American study found that 81% of hotel guests were not ordering PPV entertainment. With all the entertainment options that travellers have through online services via their laptops, PPV in hotels became a thing of the past, replaced by a bring- your-own entertainment culture (Horner, 2013).

In this modern era information and communication technology has become part and parcel of our life and it has been considered as a heart of tourism and hospitality industry especially in the hotel sector (Salman et al, 2017). Acquiring modern technologies has become a priority for hotel as technology shaping the customer demand in this modern era.

Information Technologies have made significant contribution towards the development of travel and tourism industry (Navío-Marco et al, 2018). It has revolutionized the travel and tourism industry and changed the competitiveness of hospitality organizations and destinations. Travel and tourism industry have developed dramatically in the last decades. The rapid expansion of both tourism supply and demand made modern technologies an absolute partner of the tourism industry, especially for the major business activities like marketing promotion, management, distribution and coordination within the industry. Authorities of any business are using technology to demonstrate their capability in the world stage and are trying to increase their product reach and market share in a radical way.

The form of future technological facilities and amenities have already been studied in a few hotel by the pilot room mechanism to determine the perception of the customer and get their feedback regarding the experience of their stay and it helps to evaluate the viability of up-to-date modern technologies' implication on the hotel industry. The example can be the pilot room 3120 at the Novotel Vaugirard Montparnasse, Paris. The positive impact will allow and pave way foe the authorities of the hotels to invest more and more on technological amenities. It will drastically increase the profitability of the hospitality institution and help the hotel management to attract new customer bases. Providing personalized service to those customers by the means of advanced technology will facilitate the overall customer satisfaction and improved customer loyalty which in turn improve the viability of the tourism sector and contribute largely to the overall economy of a country.

The future technological amenities have been studied in a few hotels in the world with pilot rooms (to get customer feedback about the experience and thus understand the viability and up-take of these technological amenities by guests. If there is a positive impact from latest technological amenities on customer experience demonstrated in this study, the upscale hotels

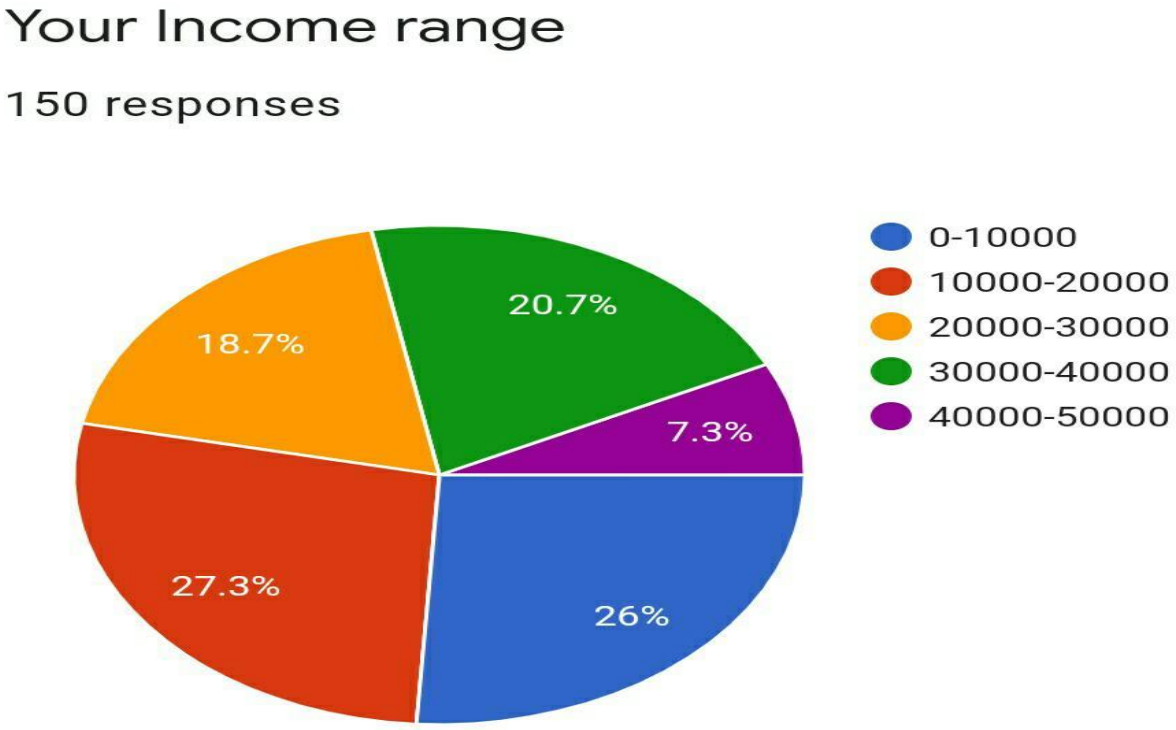
will probably invest more in technology to improve the guest experience, to generate revenue and to attract new customers, which can improve the tourism sector and also the economy of the country.

In the late 1990s the genesis of the Internet and the World Wide Web in particular revolutionized communications as it allowed organizations to show their offerings to the whole world using modern multimedia interfaces. The result is that most of the tourism organizations and destinations had to revisit their overall strategic management policy and marketing and to redesign their policies and practices for the sake of taking advantage of the new tools. In addition to it several new hotels has emerged to satisfy the emerging demand in a way that mainly focuses on keeping the customer satisfaction in the centre of their business and technology is an excellent way to do it. It is clear that organizations which can't pass in taking advantage of the emerging modern tools and technologies will surely lose market share and perhaps suffer competitive disadvantages. There is no way that a hotel ignores the prospects of technologies and still remains competitive in this modern fiercely competitive world (Zhang et al, 2019).

Analysis of the study

(1) Frequency Table: Income of respondent

	Frequency	Percent	Valid percent	Cumulative Percent
Below 10000	39	26	26	26
10000-20000	41	27.3	27	53
20000-30000	28	18.7	19	72
30000-40000	31	20.7	21	93
40000-50000	11	7.3	7	100
Total	150	100	100	



From the above chart we can understand the income of our respondent. I have collected 150 samples. From them we can see most of our respondent's income is below 20000. 39 respondents income is below 10000 and the highest number which constitutes this chart is 41 that falls under 10000-20000 portion. On the other hand only 11 respondent's incomes are

above 40000. So from the above chart we can say that most of our respondents are lower Income people. We can better understand it from the following graph-

Correlations

		Online booking is easy to done and hassle free	Means to share information and in destination activity adds another level of experience	Hotel room is necessary just to pass a night so modern technologies are not required	Wi-Fi is a necessity good in hotel rooms	Keyless entry is expected to accelerate over the coming years	Hotels managed by robots is the future of hotel sector
Online booking is easy to done and hassle free	Pearson Correlation	1	.073	-.161*	.194*	-.070	.106
	Sig. (2-tailed)		.376	.049	.017	.394	.198
	N	150	150	150	150	150	150
Means to share information and in destination activity adds another level of experience	Pearson Correlation	.073	1	.182*	-.089	.103	-.033
	Sig. (2-tailed)	.376		.025	.279	.211	.692
	N	150	150	150	150	150	150
Hotel room is necessary just to pass a night so modern technologies are not required	Pearson Correlation	-.161*	.182*	1	-.468**	.211**	-.001
	Sig. (2-tailed)	.049	.025		.000	.009	.992
	N	150	150	150	150	150	150
Wi-Fi is a necessity good in hotel rooms	Pearson Correlation	.194*	-.089	-.468**	1	-.132	.108
	Sig. (2-tailed)	.017	.279	.000		.107	.190
	N	150	150	150	150	150	150
Keyless entry is expected to accelerate over the coming years	Pearson Correlation	-.070	.103	.211**	-.132	1	.033
	Sig. (2-tailed)	.394	.211	.009	.107		.691
	N	150	150	150	150	150	150
Hotels managed by robots is the future of hotel sector	Pearson Correlation	.106	-.033	-.001	.108	.033	1
	Sig. (2-tailed)	.198	.692	.992	.190	.691	
	N	150	150	150	150	150	150

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficient of Correlation is a statistical tool to determine the relationship between dependent and Independent variable. It' value denotes from -1 to 1. Greater than 0 indicates positive relationship and less than 0 indicates negative relationship.

Correlation between dependent variable- online bookings is ways to done and hassle free and independent variable – Wi-Fi is a necessity good in hotel room: The correlation value is .194. This indicates a positive relationship. That means in every change of independent variable there will be a change in dependent variable.

Correlation between dependent variable hotels managed by robot is the future of hotel sector and independent variable of keyless entry is expected to accelerate: The correlation value is .033. This indicates a very weak positive relationship.

Regression Analysis

1. *Online booking is easy to be done and hassle free and Wi-Fi is a necessity good in hotel rooms*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194[a]	.038	.031	.965

a. Predictors: (Constant), Wi-Fi is a necessity good in hotel rooms

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.380	1	5.380	5.779	.017[b]
	Residual	137.793	148	.931		
	Total	143.173	149			

a. Dependent Variable: Online booking is easy to done and hassle free

b. Predictors: (Constant), Wi-Fi is a necessity good in hotel rooms

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.839	.174		10.544	.000
	Wi-Fi is a necessity good in hotel rooms	.185	.077	.194	2.404	.017

a. Dependent Variable: Online booking is easy to done and hassle free

The value must be within.05 in order to call it a significant value. Here the value is .017 so we can say that value is significant. So, the research accepts alternative hypothesis which states there is a positive relationship between online booking is easy to be done plus hassle free and Wi-Fi is a necessity good in hotel rooms.

2. *Hotels managed by robots is the future of hotel sector and Keyless entry is expected to accelerate over the coming years*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.033[a]	.001	-.006	1.170

a. Predictors: (Constant), Keyless entry is expected to accelerate over the coming years

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.217	1	.217	.159	.691[b]
	Residual	202.556	148	1.369		
	Total	202.773	149			

a. Dependent Variable: Hotels managed by robots is the future of hotel sector

b. Predictors: (Constant), Keyless entry is expected to accelerate over the coming years

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.086	.269		7.751	.000
	Keyless entry is expected to accelerate over the coming years	.041	.104	.033	.398	.691

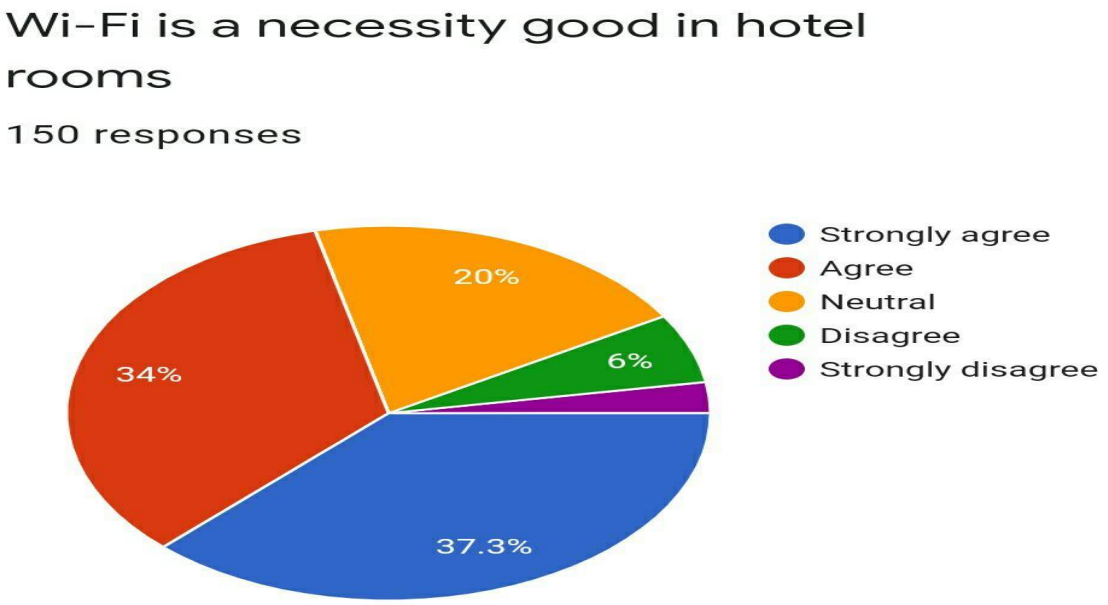
a. Dependent Variable: Hotels managed by robots is the future of hotel sector

The value we get from the above analysis is .691, which is way beyond the significant value of .05. So, we can say that the value is insignificant. It supports the null hypothesis.

Probable justification for the insignificant value: The questions asked to the respondent involved the future shape of hotel sector. The specific question was ‘hotel managed by robots is the future of hotel sector'. Nobody knows what future holds. I asked them whether they believe robotics will shape the future of tourism, many people agreed with this statement while many rejected this notion. As the survey was done in online using questionnaire, it was not possible to obtain their ideas on what is their perception on this topic.

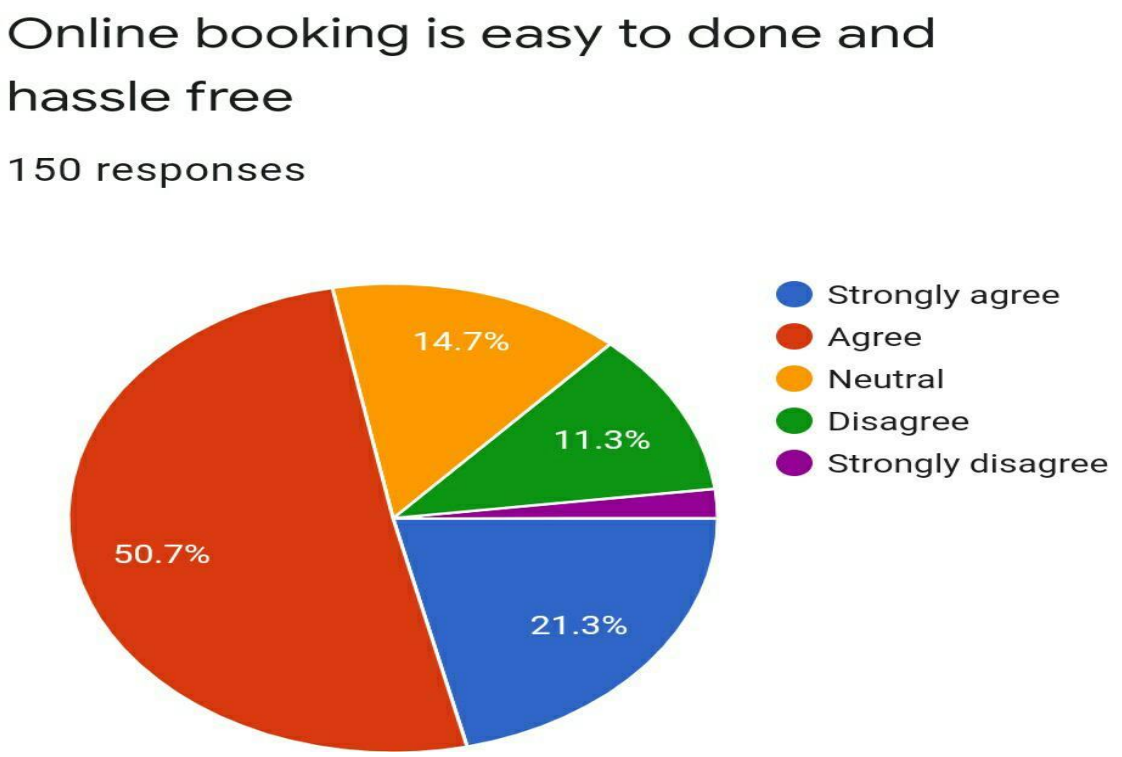
The importance of Wi-Fi in the hotel room

Wi-Fi can be used as a marketing tool. It will create enthusiasm among the guests to give check-in status in the social media such as, in Facebook or Instagram. It will increase the promotion of hotel outlet in the social media. Many people in modern era just want to show off their outings so providing free wifi access to them as soon as they walk in the property will be great beneficial to them. So, hotel operators should keep in mind the modern requirements of the guests. As guests highly value it hotel operators should focus on this issue and provide free of cost high speed internet to the guests.



However, in choosing a hotel by the guest the amenities of entertainment have no impact whatsoever on this choice. On the other hand, technologies regarding the comfort & convenience have another use. For example, when a business traveller requires a hotel with video conference facilities, the hotel choice will be made based on this specific technology or if a guest have little time it can be very important and even a decisive factor to select the hotel that has an application for check-in and ability to open the room's door through the mobile phone. These are the kind of technologies that have more impact in the process of choosing a hotel.

The views of respondents on keyless entry and robotics were also acquired in the questionnaire survey. As expected most of the people support the notion that keyless entry (by using smart card or simply mobile phone) is expected to increase in coming years. Guests might need to install the app of the property in their phone, later this app can be used to unlock the room.



Almost 70% of the despondent agreed or strongly agreed on the statement that online booking is easy to be done and hassle free. That means 7 in every 10 person appreciates the online booking system. So online booking has passed the required phase, it is now on essential phase. Hotel operators should make proper provision of online booking.

By analysing the implications of the most innovative technologies, it can be said that it is possible for the hoteliers to achieve greater differentiation simply by offering the latest technologies to the quests. Providing modern and advanced technologies will allow the hotelier to achieve higher customer satisfaction during their stay in the property and this higher satisfaction will lead to increased revenue, increased customer share and obviously more profitable business condition.

Findings and Discussions

When analyzing the responses on questionnaire, it was revealed that 53% of the respondent's income we're less than 20000 take per month. Lack of income means lack of disposable income left to spend beyond daily necessaries. So it is expected that a person with low income when required to stay in hotel will not consider spending on luxurious modern technologies. It was revealed in the survey that one in every four respondent view hotel room as a medium of just to pass a night. They will not spend much on other thinks. But the rest of the people think differently than those people. It was asked whether the respondents believe the idea that Wi-Fi as a necessity service in the hotel room. An overwhelming positive response of agree and strongly agree was received. 71% respondent (106 of 150) believes Wi-Fi as a necessity good in hotel rooms. So hotel operators should not risk of depriving the guest from free Wi-Fi.

According to Hotels.com's 2013 Global Hotel Amenities Survey, both business and leisure travelers identified free Wi-Fi as the most important amenity when they choose a hotel. Wi-Fi is considered to be a must-have in a hotel, much more important than free breakfast, free parking or a swimming pool.

Guests staying in a hotel room consider connecting with the world through internet access as an essential amenity for them during their stay (Bulchand-Gidumal, 2011). According to an Index Study charging hotel guest for Internet use can have a negative impact on customer satisfaction (J.D. Power and Associates, 2012). Therefore, in order to give customers a good experience during their stay as long as it is free as Internet access is not considered as a new facility for guests. They are only willing to pay extra for latest technologies that can provide them with a different and unique experience, such as the technologies included in the Comfort and Convenience Technologies and Entertainment Technologies dimensions. Nowadays, guests expect their hotel room to provide the same level of speed, dependability, and convenience that their office or home network provides.

Guests always prefer Entertainment technologies and they also find it appreciate to pass their time during their stay of the hotel as it provides moments of pleasure for them but which are not considered as vital for them in deciding on the hotel. Guests have high willingness to use them and they are also willing to pay extra for it to have a moment of joy because these technologies posses the power to transform the stay into a memorable and better experience.

It was already mentioned that Guests staying in a hotel room consider connecting with the world through internet access as an essential amenity for them during their stay (Bulchand, 2011). My research completely agree with the statement as more than 70% of the respondent was agreed or completely agreed with the statement that internet access (Wi-Fi) is a necessity good in the hotel rooms.

This paper highlights the positive impact of technological innovation on customer experience by analysing their view or perception on advanced technology. One conclusion can be drown from the research is that Bangladeshi hotels have lagged behind in technology adoption compared with their western counterparts, though the situation is now changing. As more and more hotel chains are investing in our country, they are bringing the expertise of efficiently implementation and management of the modern technologies in the hotel sector.

Recommendation for future research

When analysis the response gather from the questionnaire revealed that 53% respondent's income were below 20000 per month. So it can be said that I have mainly conducted my research on people whose income is not very much and perhaps they have little disposable income to spend on outside their daily necessities. So, other research can be done to people who have more disposable income and have the ability to spend on facilities provided by advanced technologies.

The relationship between productivity and technology in the hotel industry still remains unclear and poorly understood. Not very much research has been conducted on this issue and researchers require more detailed more specific and appropriate measurements of the productivity of the hospitality industry, possibly those that incorporate appropriate quality measures or detailed operational and financial information. To find out the importance that technology plays in the hotel industry, researchers need to consider the benefits technology provides other than narrow focus on increased productivity.

The majority of respondents were leisure guests. A study with equal numbers of business travellers and leisure guests may provide different results. Future research should have a

heterogeneous sample in order to analyze the technology preference differences between leisure and business guests in greater depth to verify if there is a difference in the results.

Conclusion

Consequently, tourism and hospitality institutions need to invest in innovative and modern technologies. Operational efficiencies can be achieved by using modern technologies. It will even create more value for the customers. Modern technologies improve the quality of services offered to the guests and it offers more personalized experience (Bilgihan & Nejad, 2015). Technology adds value, provides amenities, personalizes the stay of the guest but too much importance should not be provided to technology by overlooking the human interaction. It is a great challenge for the hospitality institution to create balance between using technologies and human touch. As guests are now very much accustomed to using modern technologies, the hotel operators have no other way but to redesign their property with modern and advanced technologies.

Consequently, tourism firms need to differentiate their products and activities, and perhaps even their entire business models. Through innovations, tourism firms can increase operational efficiency and create more value for customers by improving the quality of their services and offering more customized experiences (Bilgihan and Nejad, 2015).

The positive impact will allow and pave way foe the authorities of the hotels to invest more and more on technological amenities. It will drastically increase the profitability of the hospitality institution and help the hotel management to attract new customer bases. Providing personalized service to those customers by the means of advanced technology will facilitate the overall customer satisfaction and improved customer loyalty which in turn improve the viability of the tourism sector and contribute largely to the overall economy of a country.

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Appendix

A questionnaire on

Impact of Digital Technology on profitability: a study on hotel sector

What is your gender?

1) Male
2) Female
3) Other

What is your income range?

1) Below 10000
2) 10000-20000
3) 20000-30000
4) 30000-40000
5) 40000-50000

Q1) Online booking is simple easy to be done

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Q2) Hassle-free check-in is prerequisite for customer satisfaction.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Q3) Wi-Fi is a necessity good in hotel rooms

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Q4) Hotel room is necessary just to pass a night so modern technologies are not required

1. Strongly agree

2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Q5) Keyless entry is expected to accelerate over the coming years

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

Q6) Hotels managed by robots is the future of hotel sector

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree