

“Digitization in Hotels Usher to High Headcount Reduction” is an Academician’s Perception: One Tail Hypothesis Test

Mr. Venkatadri.V.R ¹

Dr. D. S. Duke Thavamin ²

Abstract

Purpose: This effective study aims to focus on the challenges arising on digitization in hotels and headcount reduction from the interactions between Hotel Human Resource personalities, hospitality academicians and hospitality students as well as on the efforts to overcome these challenges.

Design/methodology/approach: The sample was gathered through a simple random sampling technique. The study utilizes in-depth semi-structured interviews and questionnaires of 50 participants: 30 Hospitality academicians including 10 students, 20 Hotel Human Resource Personalities. The data will be subject to prove with the chi-square test analysis with two variances.

Findings: The results suggest that the null hypothesis got rejected by the participants. Also it seems Good association were there between the variant respondents. They are hoteliers and hospitality academicians.

Research limitation/implications: The sample was limited to Bangalore city hotels and IHM Bangalore.

Practical implications: The paper offers recommendations for hospitality industry with regard to retain standard level of manpower and increase willingness to hospitality studies as well as this study broadcasts the genuine voice of students those who are with disabilities in hotel digitized guest service systems. The findings are of special relevance to hospitality researchers, educators, executives, and hotel staff.

Keywords: digitized service skills, Human Recourse personalities, Academician, Hospitality studies, and Headcount reduction.

¹ Principal, Institute of Hotel Management, Catering Technology & Applied Nutrition, S.J.P. Campus, Bangalore-560001.

² Assistant lecturer, Institute of Hotel Management, Catering Technology & Applied Nutrition, S.J.P. Campus, Bangalore-560001.

INTRODUCTION

The hoteliers are now forced to be highly vigilant with emerging technologies, strict regulations and changing customer preferences, Today's biggest challenge is about staying relevant in the market. The need to provide a fantastic customer experience and embracing new market requirements are the key drivers for the digitization in the hospitality industry.

A large number of companies in the hospitality industry have now come to a realization that by adopting digital technologies, they are able to maximize their brand visibility, gain operational efficiencies and redefine customer experiences. In order to offer innovative solutions for their customers, an increasing number of hotels across the globe are partnering with IT companies.

Within a decade, most of the emerging technologies that we have today would have moved in as mainstream operation. The robotic – process automation, for instance, will transform the way the hotel bookings are carried out. The use of Biometrics will ensure that we are more secure, and the chatbot services will make the hotel booking process faster.

The constant technological development in the hospitality industry has made the lives of the customers easy. Customers' of the modern times have a growing comfort with new technology, and this is leading to some disruptive trends. Going forward, hotels without staffs will be more appealing to the independent travellers as most of them are tech-savvy. This will also benefit the hoteliers as they will be able to reduce their operational cost that leads to headcount reduction.

METHODOLOGY

The simple random sampling was undertaken with 50 participants: 30 Hospitality academicians and students, 20 Hotel Human Resource Personalities. The data will be subject to prove with the chi-square test analysis with two variances. This paper acts as a one tail hypothesis test on digitization in hotels usher to high headcount reduction reference to an academician's perception.

REVIEW OF LITERATURE

StayNTouch is a “Software as a Service” mobile hotel property management system (PMS) company focused on developing solutions that help hotels raise service levels, drive revenues, reduce costs, and ultimately change the way hotels can captivate their guests.

StayNtouch company blog post December 9 2015 says

- i) Hotel Buddy in Munich made the headlines back in November with the launch of their ‘staffless’ hotel – yep that’s right, no staff. Guests can manage everything, from booking a room, checking in, checking out, paying and can even manage their car parking space all from their mobile device. Not only that, on arrival, the key card collected by the guest at the lobby Kiosk is code-based meaning that the elevator automatically knows the correct floor to stop at.
- ii) Henn-na Hotel in Japan offers somewhat of a similar service to Hotel Buddy in that there are no humans – instead there are robots. The fembot staff isn’t known for their good looks but they are very efficient checking in guests and carrying luggage to rooms. As for their room key choice, facial recognition of course.
- iii) The table indicates how global hotels in last 18 years shifted from manpower support to software support

Year	Personal Service	Self Service	Crowd Service
Between 2000-2010	75%	20%	50%
Between 2011-2016	50%	30%	20%
Between 2017-2020	20%	40%	40%

ANALYSIS**Table No.1:** Table showing respondent's experience in hospitality field in the city for last ten years

City: Bangalore urban

Sl.No	No of years	No Of Respondents	Percentage
1.	1-3 years	03	6%
2.	8-10 years	26	52%
3.	6-7 years	13	26%
4.	4-5 years	08	16%
	Total	50	100%

The table points out that: -

- 52% of the respondents are having 8-10 years of hospitality field experience in the city
- 26 % of the respondents are having 6-7 years of hospitality field experience in the city,
- 16% of the respondents are having 4-5 years of hospitality field experience in the city and
- 6% of the respondents are having 1-3 years of hospitality field experience in the city,

Table No. 2: This table shows the prime digitization implementation in star hotels in the city in last ten years by the observation of respondents.

CITY: Bangalore urban

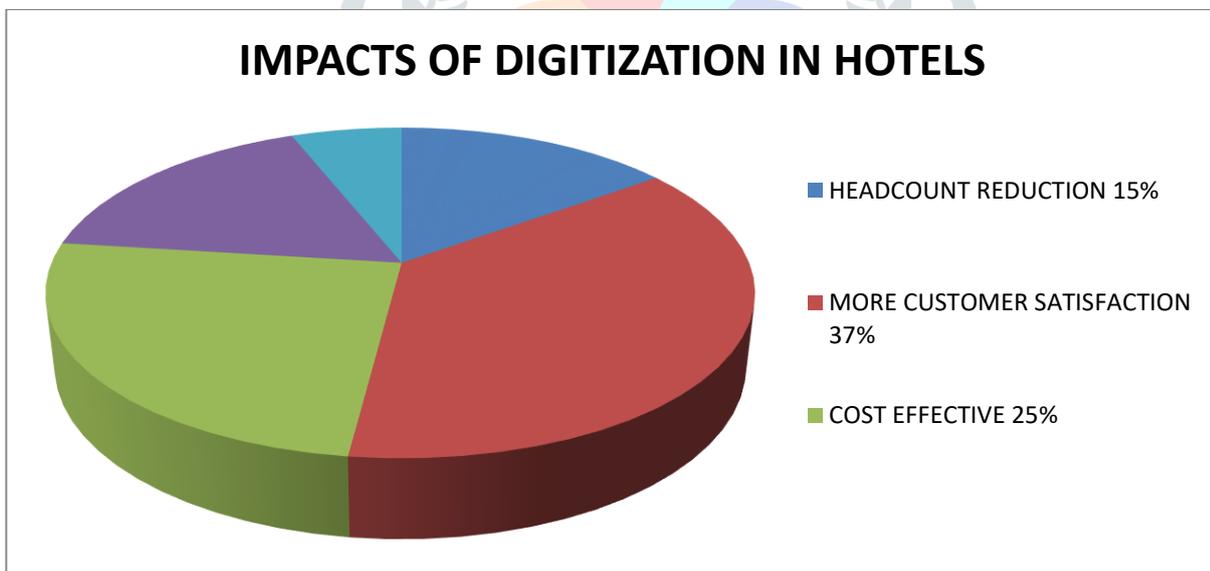
Sl.no	IMPLEMENTATIONS	No of respondents	Percentage
1.	Biometric lock in room and f & b outlets	05	10%
2.	I pad usage in f & b outlets	25	50%
3.	GPS tracking inside hotel premises	01	02%
4.	Voice recognizing Sensors and motion sensors in surveillance system, fire safety system and electrical &v electronic accessories.	03	06%

5.	Usage of Revenue Management tools <ul style="list-style-type: none"> • Rate Shopping Tool • Review Score Tracking • Hotelligence 	16	32%
		50	100%

This table points out: -

- 50 % of the hotels gave priority to “I pad usage in f & b service outlets”
- 32 % of the hotels gave priority to “Usage of Revenue Management tools”
- 10% of the hotels gave priority to “Biometric lock in room and f & b outlets”
- 06 % of the hotels gave priority to “Voice recognizing Sensors and motion sensors”
- 02 % of the hotels gave priority to “GPS tracking inside hotel premises”

Pie Chart -1: This pie charts shows the impacts of serious digitization in hotels:-



Find Test Statistic

- i) NULL Hypothesis $H_0 =$
Digitization in hotels usher to high headcount reduction is an academician's perception
- ii) ALTERNATIVE Hypothesis $H_a =$
Digitization in hotels usher to less headcount reduction is an academician's perception
- iii) Level of significance $\alpha =$

The level of significance 0.05 is related to the 95% confidence level and
5% Rejection level

Level of significance $\alpha = 0.05$

- iv) degree of freedom
 $df = (rows - 1) (columns - 1)$
 $= (2-1) (5-1)$
 $= 1 \times 4$
 $= 4$
- v) critical value = 9.488

Chi- Squire Analysis

Table No. 3: This table shows questionnaire and interview results to find on Digitization in hotels usher to high headcount reduction is an academician's perception with five degree of freedom fixing factors for the respondents.

Observed

Sl.no	Variables	Degree of freedom factors					Total no of respondents
		A	B	C	D	E	
		Decreases High productivity standards	More guest friendly	High accuracy in forecasting	Vulnerable to hackers	No heart and soul in services	
		No of respondents					
1.	Hospitality Academician and students	8	2	2	8	10	30
2.	Hotel HR personalities	7	3	4	1	5	20
TOTAL		15	5	6	9	15	50

Table No 4: This table shows researchers expectations on Digitization in hotels usher to high headcount reduction is an academician’s perception with five degree of freedom fixing factors for the respondents.

Expected

Sl.no	Variables	Degree of freedom factors				
		A	B	C	D	E
		Decreases High productivity standards	More guest friendly	High accuracy in forecasting	Vulnerable to hackers	No heart and soul in services
		No of respondents				
1.	Hospitality Academician and students	9	3	3.6	5.4	9
2.	Hotel HR personalities	6	2	2.4	3.6	6

--	--	--	--	--	--	--

Table No: 5: This table shows probability value against Digitization in hotels usher to high headcount reduction is an academicians’ perception with five degree of freedom fixing factors for the respondents.

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i} = \text{Probability Value} = P \text{ Value}$$

$\chi^2 = P \text{ value} = 06.26$

C value = 09.488

Sl.no	Variables	Degree of freedom factors				
		A	B	C	D	E
		Decreases High productivity standards	More guest friendly	High accuracy in forecasting	Vulnerable to hackers	No heart and soul in services
No of respondents						
1.	Hospitality Academicians and students	0.11	0.33	0.71	1.25	0.11
2.	Hotel HR personalities	0.16	0.50	1.06	1.87	0.16

Findings

The p-value is a probability that measures the evidence against the null hypothesis. Lower probabilities provide stronger evidence against the null hypothesis.

Use the p-value to determine whether to reject or fail to reject the null hypothesis, which states that no association between two categorical variables exist.

“Variables = Respondents “

In my one tail hypothesis chi-square analytical test:-

“P value is lesser than Critical value”

Interpretation

A critical significance level of 0.05 indicates a 5% risk of concluding that an association between the variables exists when there is no actual association.

P-value $\leq \alpha$: The variables have a statistically significant association (Reject H_0)

If the p-value is less than or equal to the significance level, reject the null hypothesis and conclude that there is a statistically significant association between the variables.

P-value $> \alpha$: Cannot conclude that the variables are associated (Fail to reject H_0)

If the p-value is larger than the significance level, fail to reject the null hypothesis because there is not enough evidence to conclude that the variables are associated.

“In these results, the P-value = 06.26”

“The P-value is lesser than level of significance (α) = 09.488”

Test Result

Our test **rejects the null hypothesis** that is “Digitization in hotels usher to high headcount reduction” is an academician’s perception.

Also our test concluded that the variables, Hospitality Academicians and Hotel HR Personalities **are associated with each other.**

Suggestions

This table shows: The given suggestions selected by the respondents on:-Which are the most required factors need to be implemented with high urgency in their respective field?

Sl.No	Suggestions	Total no of respondents	percentage
1.	Chatbot for enquires	18	36%
2.	Biometric entry in room and f & b outlets	07	14%
3.	App system in room service	07	14%
4.	Self check-in kiosks	08	16%
5.	Increase software knowledge and skills boosted curriculum	10	20%
TOTAL		50	100%

This table shows:

- 36 % respondents suggested implementing “Chatbot for enquires” as a most required and high urgency factor in their

respective field

- 20 % respondents suggested implementing “Increase software knowledge and skills boosted curriculum” as a most required and high urgency factor in their respective field
- 16% respondents suggested implement “Self check-in kiosks” as as a most required and high urgency factor in their respective field
- 14 %% respondents suggested implement “app system in room service” as a most required and high urgency factor in their respective field
- 14 %% respondents suggested implement “Biometric entry in room and f & b outlets” as a most required and high urgency factor in their respective field

Conclusions

Adoption of digitization has grown exponentially in a very short space of time and it has been deployed for a variety of use cases across different industry types. Hospitality units like hotels, casinos or resorts still rely on traditional methods for check-in, room access, security and surveillance, while a single biometric solution can server all these purposes. Fingerprint recognition AADHAR is the most popular modality, which can also be used in hotels and casinos. A fingerprint management system is

highly reliable and secure as fingerprints are unique to each individual. For hospitality institutes should seriously think of redesigning the course modules with boosted software skills and more techno friendly curriculum for these more studies are required.

Bibliography

1. What is the future of the digitized hotel? (2017, May 02). Retrieved from <http://www.stayntouch.com/blog/future-digitized-hotel/>
2. Chi Square Test - with contingency table. (2015, May 19). Retrieved from <https://youtu.be/misMgRRV3jQ>
3. Interpret all statistics for Chi-Square Test for Association. (n.d.). Retrieved from <https://support.minitab.com/en-us/minitab/18/help-and-how-to/statistics/tables/how-to/chi-square-test-for-association/interpret-the-results/all-statistics/>
4. Digital Transformation in Hospitality Industry. (2018, September 22). Retrieved from <https://hashed.in.com/blog/digital-transformation-in-hospitality-industry/>
5. K R Kothari, Research methodology, 2Edition: Revised, New Age International (P) Limited, Publishers, 2004.

