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ARTIFICIAL INTELLIGENCE AND HOTELS IN GOA: A PILOT STUDY – IMPACT AND RELATIONSHIP

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ABSTRACT

This pilot study is pointed to establish the camaraderie between Artificial Intelligence, Hotels, and holiday travellers to Goa and deduce a research agenda that will guide in augmenting customer experiences through various phases of a planned holiday. Based on the literature review, the need to develop a research agenda to establish an evidence-based relationship between AI and Goan (Indian) hotel industry was identified and, a pilot study with 101 respondents was executed. The hypothesis covered the various phases of a holiday like planning, reservation, check-in, dining, and stay experience and the demography. The preliminary results suggested a positive contribution of artificial intelligence in effective holiday planning, execution, and management. To reinforce the pilot results and come up with a model for designing optimized customer experiences, a full-length study is planned.

Keywords: Artificial Intelligence, Service Robots Usage, Holiday Planning, Designing Customer Experiences, Smart Checkin

INTRODUCTION

The internet has sleeved up the involvement of Artificial Intelligence (AI) in most sectors. In the hospitality sector, each phase (holiday planning, reservation, checkin, dining and stay, feedback loop) is exhibiting a positive growth (RKilichan, et al., 2020). Online systems have boosted the interaction between visitors and hotel service providers thus embarking on the roots of AI for an increased business acumen in forecasting customer insights.AI systems are revolutionizing hotel management by improving efficiency and delivering customer-tailored experiences. Larger chains use AI robots as concierges, while others automate backend operations for better customer experiences. AI and machine learning have improved guest satisfaction, with personalized travel guides and in-house experiences achieving 21.8%. AI tools exhibit their true potential in multiple ways. Primarily, in the improvement of quality and price provided by the hoteliers. Next, they promote self-dependability thus permitting a customer to personalize and execute his/ her holiday planning based on the research done by AI.

Holiday planning involves various tools, including review websites, chatbots, and AI search engines, which learn customer preferences and requirements. With every input, the AI system learns and offers a better experience. AI systems are increasingly used in the hotel industry to replace humans for repetitive tasks and improve human skills for niche tasks like information retrieval (N Drexler et al., 2019). The role of AI in setting protocols cannot be negated. The designing of a customer-friendly and convenient experience with active visitor involvement has been targeted. (Ruel et al., 2020).It gets mandatory to understand the capability of humans and AI systems to evaluate social activity of the consumer and formulate service packages accordingly (Cantallops et al 2014). AI-powered chatbots with machine learning capabilities can offer 24-hour customer service, raising questions about human existence and potential barriers for cooperation (Flandrin et al., 2021). With technology undergoing constant evolution, advancement in chatbots is no exception. Various programs are being devised to mimic humans and hence facilitate a hassle-free experience for the customer. (Alotaibai et al, 2020). A highly conducive and user-friendly interface is found to positively upscale visitor involvement and hence reflect in repeated customer bookings. An increased interest in knowing the impact of hospitality services on the customer, through various AI modalities provides data that can be used to formulate a unique visitor travel plan and thus positively impact the return of the customer. (Dominici, G et al, 2010) (Gustafsson et al, 2005)

The literature indicates multiple indices of customer experiences that can be improved with AI technology. Next, minimal evidence-based research was available within India, and none from the state of Goa. Considering Goa as the heart of tourism along the western coast, empirical research would yield rich data points that will contribute to developing and evaluating the contribution of AI systems in designing optimum customer experiences at various phases of a holiday planned in Goa, India.

RESEARCH METHODOLOGY

Scope of the research was to perform a pilot study of ~ 100 respondents through an online questionnaire requesting inputs on demography and customer opinion of the impact of AI in hotels. The below hypothesis (Table 1) was tested in the pilot study. A 5-point Likert scale was considered to record the responses of the customers. The final score presented in (Figure 1) is derived as an average value of the response to the questions for each hypothesis.

Table I. Pilot Study Hypothesis

H0	There is no noteworthy impact on holiday planning with the use of AI in hotels
H1	There is a noteworthy impact on holiday planning with the use of AI in hotels
H0	There is no noteworthy difference in the preference for hotel reservations with the use of AI in hotels
H1	There is a noteworthy difference in the preference for hotel reservations with the use of AI in hotels
H0	There is no noteworthy influence of the use of AI on the customer check-in experience at hotels
H1	There is a noteworthy influence of the use of AI on the customer check-in experience at hotels
H0	There is no noteworthy difference made by AI in designing a customized dining experience for the customer in the hotel
H1	There is a noteworthy difference made by AI in designing a customized dining experience for the customer in the hotel
H0	There is no noteworthy difference in designing a customized experience by the use of AI through the holiday
H1	There is a noteworthy difference in designing a customized experience by the use of AI through the holiday
H0	There is no noteworthy difference in feedback from customers who planned their holiday with AI tools
H1	There is a noteworthy difference in the feedback from customers who planned their holiday with AI tools

Fig 1: Hypothesis Testing

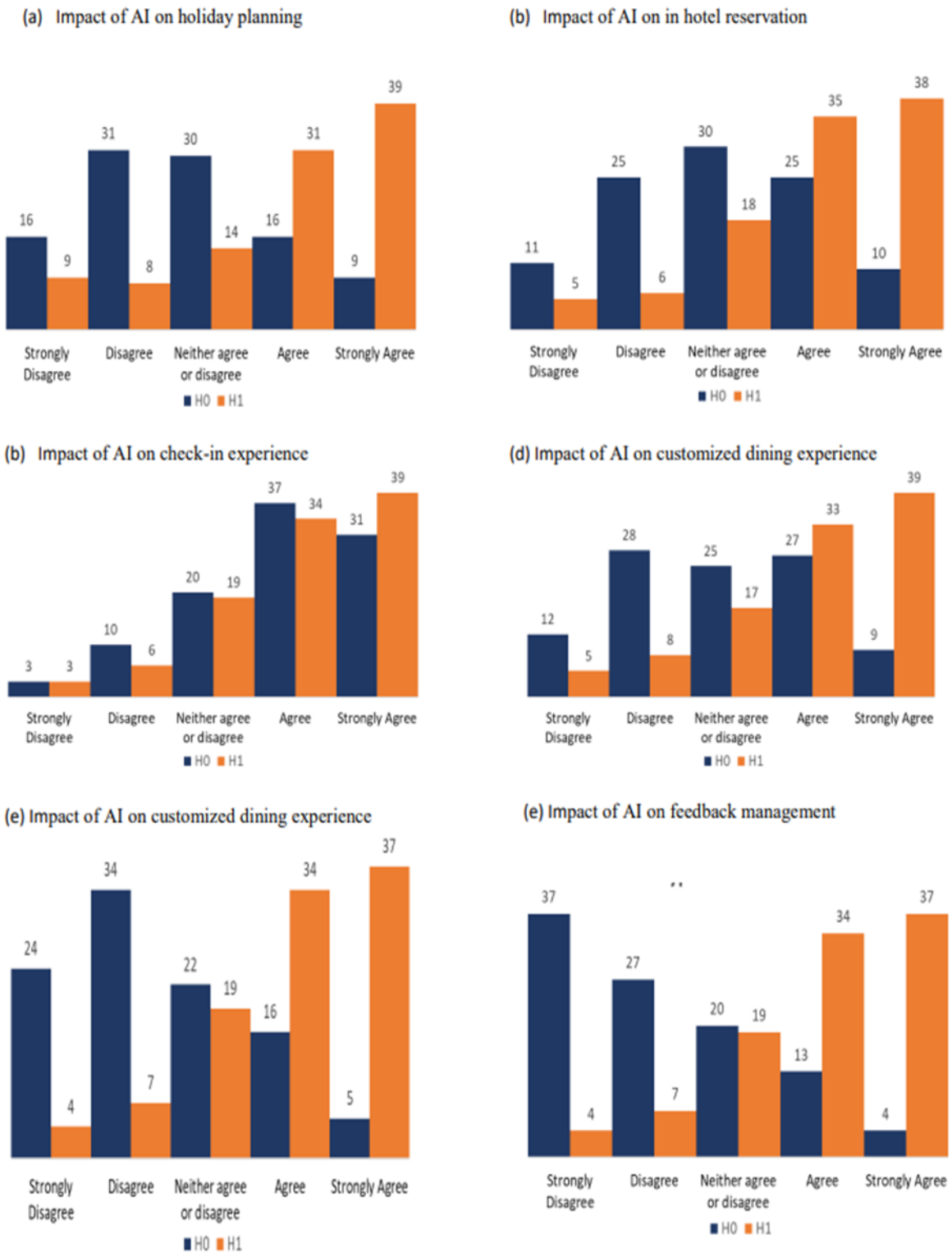
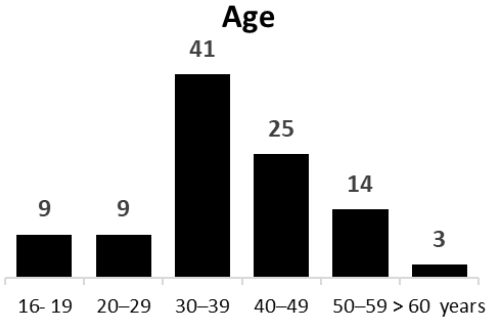
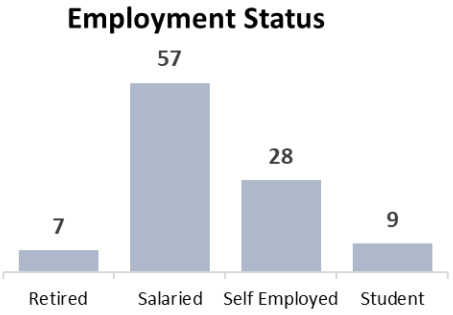
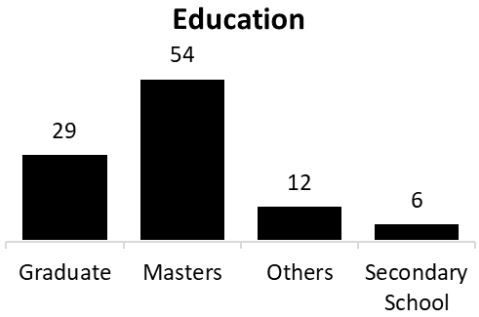
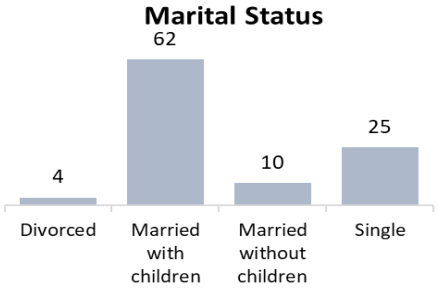


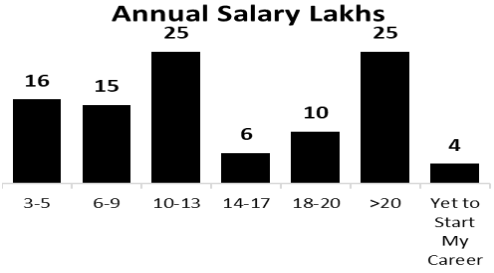
Figure 2: Demography Data

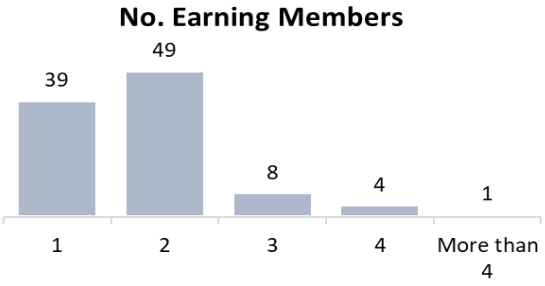

Age
41
25
14
9
9
3
16- 19
20–29
30–39
40–49
50–59 > 60 years

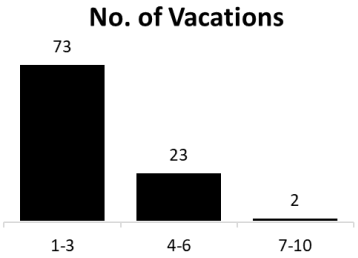

Employment Status
57
28
7
9
Retired
Salaried
Self Employed
Student

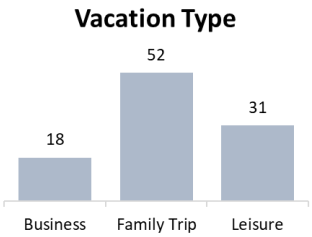

Education
54
29
12
6
Graduate
Masters
Others
Secondary School

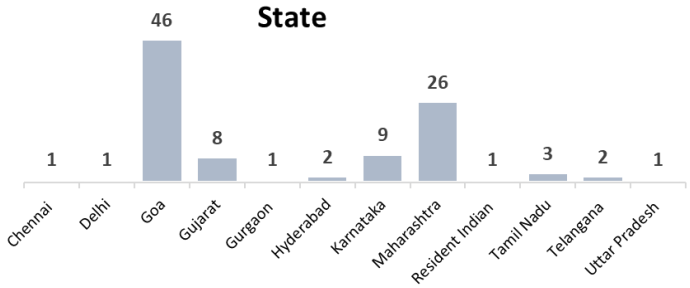

Marital Status
62
25
10
4
Divorced
Married with children
Married without children
Single

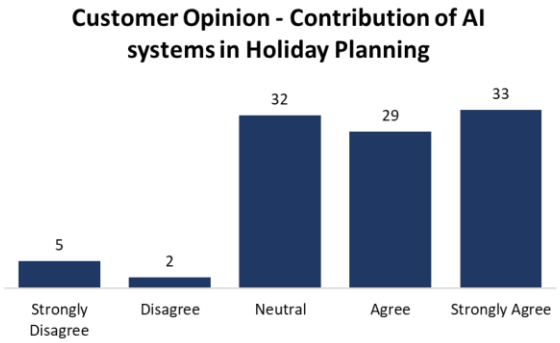

Annual Salary Lakhs
25
25
16
15
6
10
4
3-5
6-9
10-13
14-17
18-20
>20
Yet to Start My Career

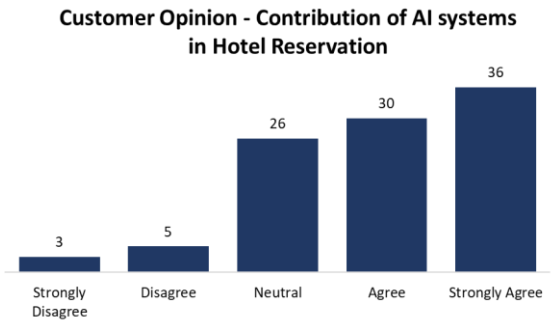

No. Earning Members
49
39
8
4
1
1
2
3
4
More than 4

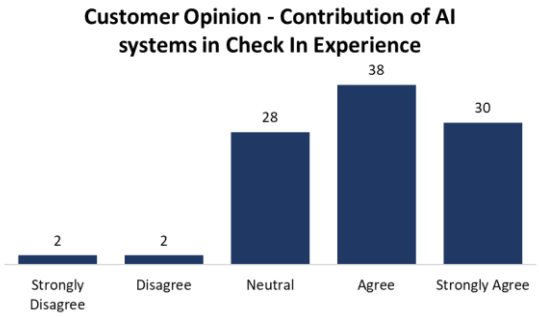

No. of Vacations
73
23
2
1-3
4-6
7-10

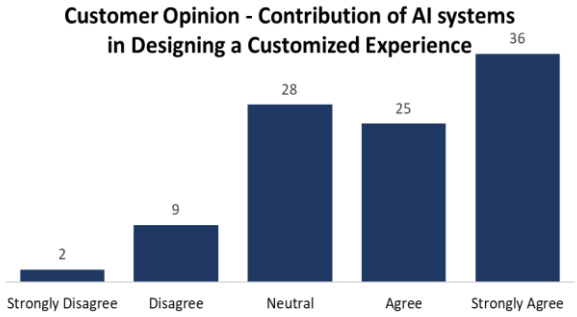

Vacation Type
52
31
18
Business
Family Trip
Leisure

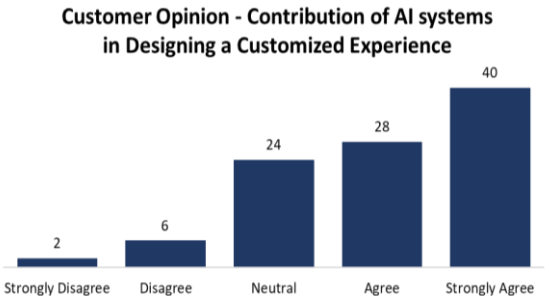

State
46
26
8
9
1
1
1
2
1
3
2
1
Chennai
Delhi
Goa
Gujarat
Gurgaon
Hyderabad
Karnataka
Maharashtra
Resident Indian
Tamil Nadu
Telangana
Uttar Pradesh

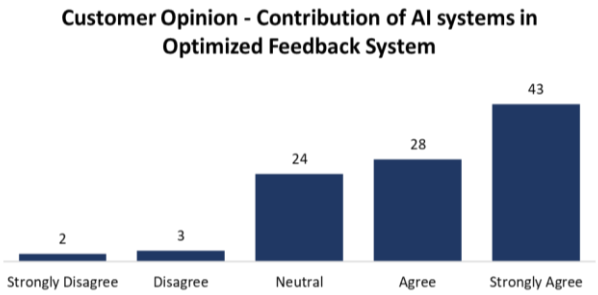












RESULTS AND DISCUSSIONS

In total 101 responses are recorded. 41 of the respondents are from the age group 30-39, 57 of the respondents are salaried and 54 are post-graduates. The highest number of respondents were observed to draw an annual salary higher than 20 Lakhs. 62 of the respondents are married with children. 73 of the respondents planned a vacation of 1-3 days and 44 of the respondents planned their holiday as a vacation trip, 52 planned it as a leisure trip. The responses were received from multiple states with the highest response observed from Goan residence.

The hypothesis testing draws the following inferences:

Impact of AI on Holiday Planning:

- H0 and H1 data from the sample population suggest a positive relationship between use of AI systems and holiday planning
- Customer Opinions also suggest a positive contribution of AI systems in Holiday Planning

Impact of AI in Hotel Reservation:

- H0 and H1 data from the sample population suggest a positive relationship between use of AI systems and hotel reservation
- Customer Opinions also suggest a positive contribution of AI systems in Hotel Reservation

Impact of AI in Check-in Experience:

- H0 and H1 data are suggesting a mixed response from the customers. However the customer opinion suggests a positive relationship for the contriution of AI systems and checkin experience.

Impact of AI on customized Dining Experience:

- H0 and H1 data from the sample population suggest a positive relationship between AI systems and customized dining experience.
- Customer Opinions also suggest a positive contribution of AI systems in customized dining experiences

Impact of AI on Designing a Customized Experience:

- H0 and H1 data from the sample population suggest a positive relationship between AI systems and customized dining experience.
- Customer Opinions also suggest a positive contribution of AI systems in customized dining experiences

Impact of AI on Designing a Feedback Management:

- H0 and H1 data from the sample population suggest a positive relationship between AI systems and customized dining experience.
- Customer Opinions also suggest a positive contribution of AI systems in customized dining experiences

CONCLUSION AND FUTURE SCOPE

The impact of AI on hospitality sector in India is understudied. Considering the pilot data confirms a positive impact of AI on various phases of the Goan hotel industry, a full-fledged study will help to provide better insights with respect to customer desires and tendencies. This would further guide in formulating an elaborate plan addressing the customer wishes, reservation delighters, stay choices, and customer advice.

Furthermore, the data collected will help to build a knowledge database. This will not only benefit hoteliers and hotel policy makers, but also serve as a in-feed for the AI systems to design better customer experiences. The data generated from tourists visiting Goa, can be further extrapolated and used for betterment of the customer experience designing at a National and International level. It will also serve as a benchmark for future researchers.

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