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KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) OF HOTEL EMPLOYEES ABOUT ARTIFICIAL INTELLIGENCE USAGE IN HOTELS (A CASE STUDY OF KATSINA METROPOLIS)

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ABSTRACT

The study focused on assessing the knowledge, attitude, and practice of hoteliers on artificial intelligence usage to hotel profitability in Katsina State. Information related to potentials of artificial intelligence as marketing tool as well as its profit-making potentials was reviewed. The study was conducted within Katsina State and cross-sectional type of survey was adopted in conducted the study. Five large hotels within the state with a population of 216 staff were used and purposive as well as proportionate random sampling methods were used to come up with 160 respondents as the sample size for the study. Information was retrieved from the selected respondents using a four-point likert scale. The collected data was subjected descriptive statistics for the analysis. It was indicated that majority of the respondents are male and are of the age between 31-40 years. With a mean score of 2.79, it was identified that artificial intelligence is new to many people and professions, but they are realising its importance. It was also considered at a mean score of 2.90 to serve as a tool for curtailing human errors and it is faster than human in its operations. It was further proven at a mean score of 2.78 to be a tool hotels are using in solving many of their marketing problems. The study concluded that hotels are aware about artificial intelligence and its marketing as well as profitability potentials, but some are sceptical about accepting it to be their marketing tool. It was recommended that hotels should be enlightened on any advancement in technology such as artificial intelligence that can benefit their business as well as marketing operations.

Keywords: Artificial Intelligence, Employees, Hoteliers, KAP.

INTRODUCTION

Hospitality industry in which hotel sector is involved is an industry that always advanced in its services based on technological advancements. The industry is dealing with human, capital and material resources in all its operations. One of the major tasks of the industry's employees is to have a customer that will patronize their products and services in return will help to advertise it on behalf of the establishment to the outside world and still return for the second time. Artificial Intelligence is now one of the major ways the industry is using to achieve this important goal. In the industry, artificial intelligence is changing the way businesses are carried out giving more opportunities and possibilities for both employees and customers to a better service experience and helping the growth and development as well as optimization of revenue by the sectors of the

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industry (Lacalle, 2021). Artificial Intelligence is viewed by Lacalle (2021) as the ability of a computer or robot to perform the duties and tasks that is usually performed by a human. With the ability to carry out human functions more efficiently, hotels can use this technology to optimize operations and to streamline the guest experience in order to boost guest retention rates and drive sales (Press Reader, 2023). Artificial Intelligence is proved to be a tool capable of transforming the services of a hotel at every level such as; planning, marketing, customer relation, customer experience and amenities. Proprietors or those assign/responsible can adopt AI-powered tools to improve post-sale service, analyze data as well as customer retention (Axisrooms, 2022).

Hotel depending of its category is a profit-oriented organisation whether own by government or private individuals. As such it scouts for all possible ways it can to satisfy their guests in order to remain in the competitive environment with its business partners (Press Reader Team, 2023). It normally focused on providing services to its residential and non-residential customers who are away from their various destinations for reasons such as business, religion, leisure, education etc. the services can be in form of a place to spend the night after hectic day activities, food and drinks as well as where needed multiple sights, activities and events (Cvent, 2020). Many strategies and tools are adopted by hotels in order to market their products and services so as to reach their target customers. The main aim is to source new customers and retains the past and existing ones so as to generate more revenue for the growth and development of the establishment (Lacalle, 2021). One of such strategies adopted is the Artificial Intelligence which is a modern marketing tool used by many industries with a belief that, it has the potentials to revolutionize the way the industries market their products and services. Artificial Intelligence is used to optimize energy efficiency by controlling and regulating lighting, heating as well as cooling systems which will result in less energy consumption and cost as such lead to higher profit generation (Hollander, 2023).

Artificial Intelligence is one of the critical assets that hotel business as a profit oriented venture cannot ignore in as much as they want to stay competitive in the business. The greatest idea is to find and adopt AI gadgets that suit your business, as this will without doubt boost the profitability factor of the business (Lukanova and Ileiva, 2019). According to Hussein Al-shami et al. (2022) Advertisement as believed to be one of the major ways that hotels used in order to bring their customers close to the products and services is made easier using AI technology. Now hotel business can optimize their return on investment by placing adverts in front of their customers which can enhance their zeal for patronage as such increases the profitability of the business. However, adoption of AI in the hotel and other sectors of the hospitality and tourism industry have the potentials to change the operations from traditional to standard level. It is evident that hoteliers who do use the latest AI developments are finding it difficult to stand the competitive challenges (Huang, et al. (2022). Based on this, the present study is set to determine the knowledge, attitude and practice of hoteliers on the potentials of Artificial Intelligence usage on hotel profitability. Taiwo (2019) assert that report from Collier International indicated that personalization of AI is capable of increasing hotel revenue by over 10% as well as reduce costs by more than 15%. He further stated that report from a research conducted at Arabian Travel Market 2019, is of the view that hotel operators were expecting technology like voice and facial recognition, virtual reality and biometrics to be mainstream by 2025.

Artificial Intelligence and its Potentials as a Hotel Marketing Tool

As one of the branches of computer science, artificial intelligence is a machine with sets of instructions programmed to think and act in various aspects like humans without human intervention. Artificial Intelligence is now gaining lots of popularity and acceptance across many industries for its potentials of moving the industries toward making their various visions to reality. Hotel is one of the industries where artificial intelligence application is proved to gain wider acceptance based on the opportunities it offers for better personalized services (Lacalle, 2021). In order to boost guest retention, source new ones, streamline their experience, increase sales potentials and optimize their establishment's operations, hotels are now adopting artificial intelligent gadgets as one of the best tools (Press Reader Team, 2023). Artificial Intelligence is one of the power-

ful tools that can help hoteliers to make well informed decisions regarding their business flow and optimize their guest relation performance. This is through understanding customer's needs and wants as well as help hoteliers deliver a quality guest experience (Axisrooms, 2022). Since its inception and adoption AI continues to make positive changes into hotel business based on its potentials for profit growth. It is predicted that AI could potentially add up to $13 trillion to the global economy by 2030 (Frackiewicks, 2023).

Artificial intelligence is continuously being accepted by many industries due to its proved advantage of improving marketing. The technology is tested in the healthcare industry for instance to aid in suggesting drugs after diagnosis, the dosage, the treatment to particular ailment, as well as suggesting surgical procedures during a surgery (Frankenfield, 2023). Hotels according to Tella (2022) are now applying Artificial intelligence in form of robot in many of their operations such as check-in and check-out and they help a lot to reduce line waiting time as they acts faster than humans without getting tired or take a rest for food, water etc. Many of the AI gadgets are programmed as such carry out tasks continuously with fewer mistakes. As an excellent hotel marketing tool, AI has the ability to gather, analyze and interpret numerous data from different sections of the hotel within a second and help the hotel by providing important revenue generation opportunities. AI is further capable of predicting market trend which can help the hotel with an insight in their strategic planning processes (Triendi, 2023). Chatbot as an AI gadget is used as a marketing tool by hotels to aid in communication with customers using either natural language processing or guest's native language. According to Precious (2023), Modern technological advancement leads to rapid increase in digitalization in the hotel sectors of hospitality industry which makes it easier to safeguard the guest's personal information they entrusted to the industry for any unauthorized access. This process is made easier with AI gadgets such as robust encryption protocols.

Adopting AI such as concierge chatbots in hotel operations can decrease human involvement in many tasks as such lead to fewer human errors, saves money for the business and allow the company to deliver top-notch services. Hotels are now adopting AI model such as robots which are capable to learn from guests and use what was learnt for future interactions such as answering questions, fulfilling simple booking tasks and improve its own speech over time. This can help to prevent long queues in the front office, lobbies, restaurants etc (Nam, et al. (2021). As hotels are experiencing difficulties regarding interaction with guests who speaks different language from different parts of the world. Nowadays, with the help of programmed AI gadget known as chatbot, the difficulty is made easier, as the gadget can be programmed to speak a variety of languages or it can be installed with a live translator application (Buhalis and Moldavska, 2022).

Artificial Intelligence and its Profitability Potentials

Profit-oriented businesses like hotels always device many ways that can lead them to maximize profit, as such spent a lot of money in the process. There target is how to reach their target customers to convince them about what they have to offer. In the 21st Century, Artificial Intelligence is proved to be one of the major technologies these categories of profit-oriented organizations are using in order to achieve their goals. Cheishvili (2021) opined that, in their effort to reduce human workforce and save cost, enterprises are now deploying AI technology. He further stated that the usage has grown up to about 270%. AI gadgets such as smart Chatbots are regarded as business game-changers as they are expert and excel in answering business customers questions. This is very helpful to businesses that have no enough employees to respond to customers requests quickly (Lacalle, 2021). There are instances where many data from various departments, sections and units are brought for analysis at a shortest possible time for operations and it seems numerous to be analyzed by human at the required time, AI tools are in these types of instances applied, as such increase the profit generation of the hotel (Axisrooms, 2022).

As the main aim of commercial enterprises is to maximize profit, AI has the capacity to help companies increase their profit margin within a stipulated period. This is because the technology can help businesses to detect weak signals in their operations and even make a positive forecast regarding ingredient prices, as such

demand and supply is made easier (Frackiewicks, 2023). Big data analytics and machine learning are some forms of Artificial Intelligence tools that can be used by business organisations to boost their return on investment (ROI) as they can gain insight into the business customers needs and demands (Hall, 2019). He further stated that, AI is capable of eliminating all forms of guesswork in customer interaction brought by email marketing or while providing customer support services. Content generation, PPC advertisements and Web design are now AI tools tested positive for automating human dependent processes by businesses in their marketing. Businesses want their advert and products to reach their target audience as at when targeted, AI to this respect has the potentials to curate and generate content as well as place it in front of the right people on the right platform (Cheishvili, 2021). According to Hollander (2023) hotels who do not adapt AI and its potentials of improving the sector to higher standards such as increased profitability, improved guest experience, and competitive advantage over their competitors are left far behind. It is believed that AI cannot replace the human touch in hotel operations even though it can handle many tasks traditionally carried out by employees. But it is programmed to carry out many tasks which can help in reducing human error, increase product and service efficiency as well as reduce hectic staff schedules for more important ones. It is also capable to carry out tasks within a short period that can be completed by human in several days (Prentice, Dominique and Wang, 2020).

METHODOLOGY

The study was conducted within Katsina State popularly known as the "Home of Hospitality." Katsina is the capital city of the State which is in North-western Nigeria. It is located some 260 kilometers east of the city of Sokoto and 135 kilometers north of Kano close to the border with Niger Republic. Different researches regarding hotel were conducted by different authors such as Taiwo (2019), Precious (2023), and Nicholas (2023), within Nigeria as a whole, but areas related to Artificial Intelligence were left untouched in Katsina Metropolis which happened to be the basis of conducting this research.

Cross-sectional survey was used in the study and five large hotels within the metropolis with a total of 216 staff including proprietors, managerial and operational personalities form the population of the study. This population includes 148 male and 68 female. The hotels were purposively selected, as they are expected to in one way or the other be using Artificial Intelligence in their day-to-day operations. Purposive sampling method was also adopted in sampling all the proprietors of the five selected hotels as well as their general managers. Proportionate random sampling method was then used in sampling 10 receptionists/reservation clerks on duty, 10 housekeepers and 10 restaurant managers from each of the five hotels. This makes a total of 160 respondents including 123 male and 37 female regarded as the sample size for the study. Four-points Likert scale close-ended questionnaire with options; SA (strongly agreed), A (agreed), D (disagreed) and SD (strongly disagreed), which were administered to the respondents face-to-face on their point of duties was used to retrieve data. All the administered questionnaires were successfully collected back subjected to descriptive statistics of Bar chart, Pie chart, mean and standard deviation for the analysis.

RESULT AND DISCUSSION

Socio-economic Characteristics of the Respondents

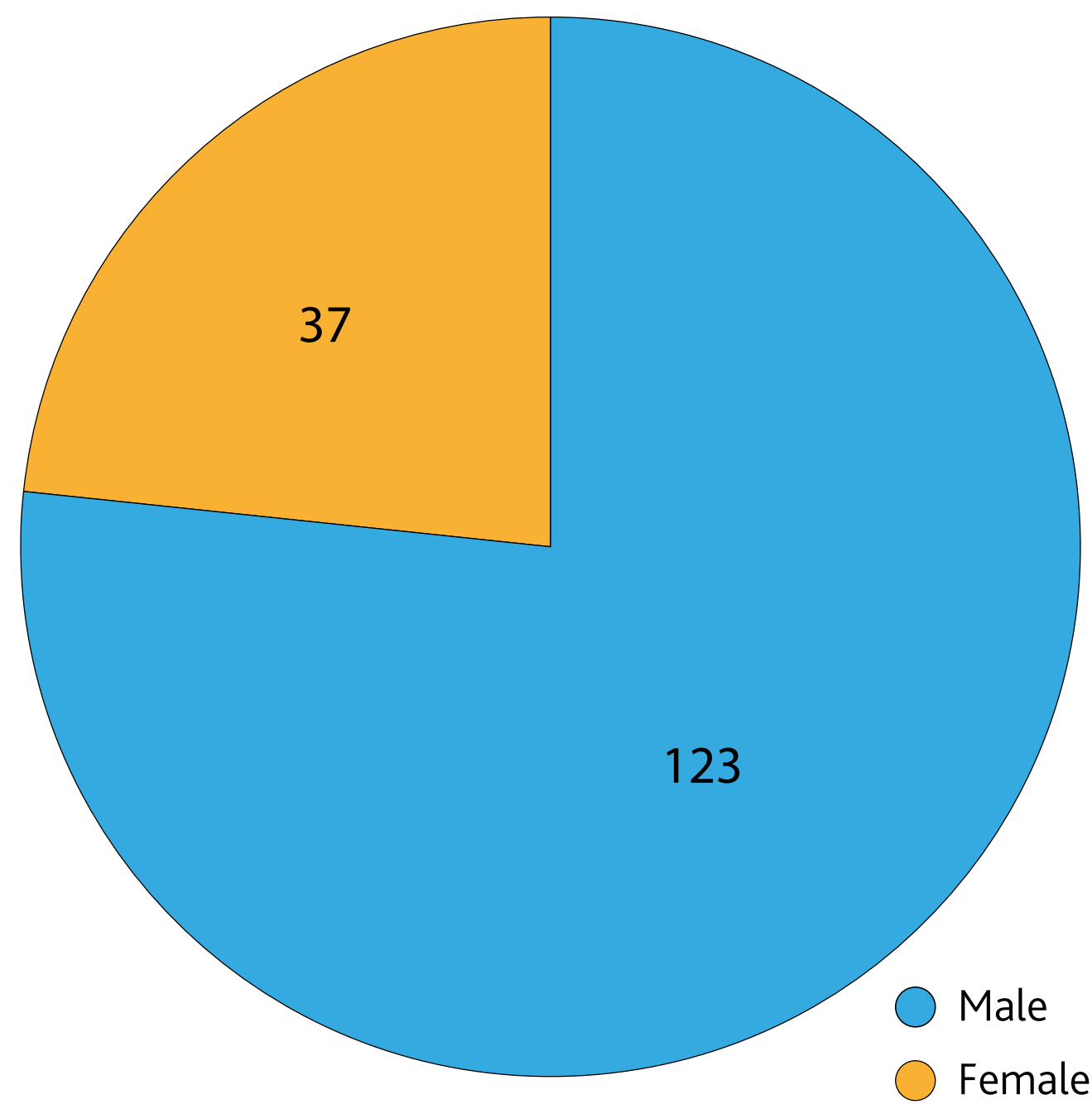### *Gender of the Respondents*

Figure 1. Gender of the Respondents

Figure 1 above contains the data obtained from the respondents when asked to indicate their gender. It was clearly indicated that majority of the respondents 123 are male while 37 are female. This is a clear indication that there is less women working in the hotel sector of the hospitality industry in the study area when compared with their counterpart men. This may not be unconnected with the culture, tradition and religion that dominated the study area which places many restrictions and rules for women to work in hotel.
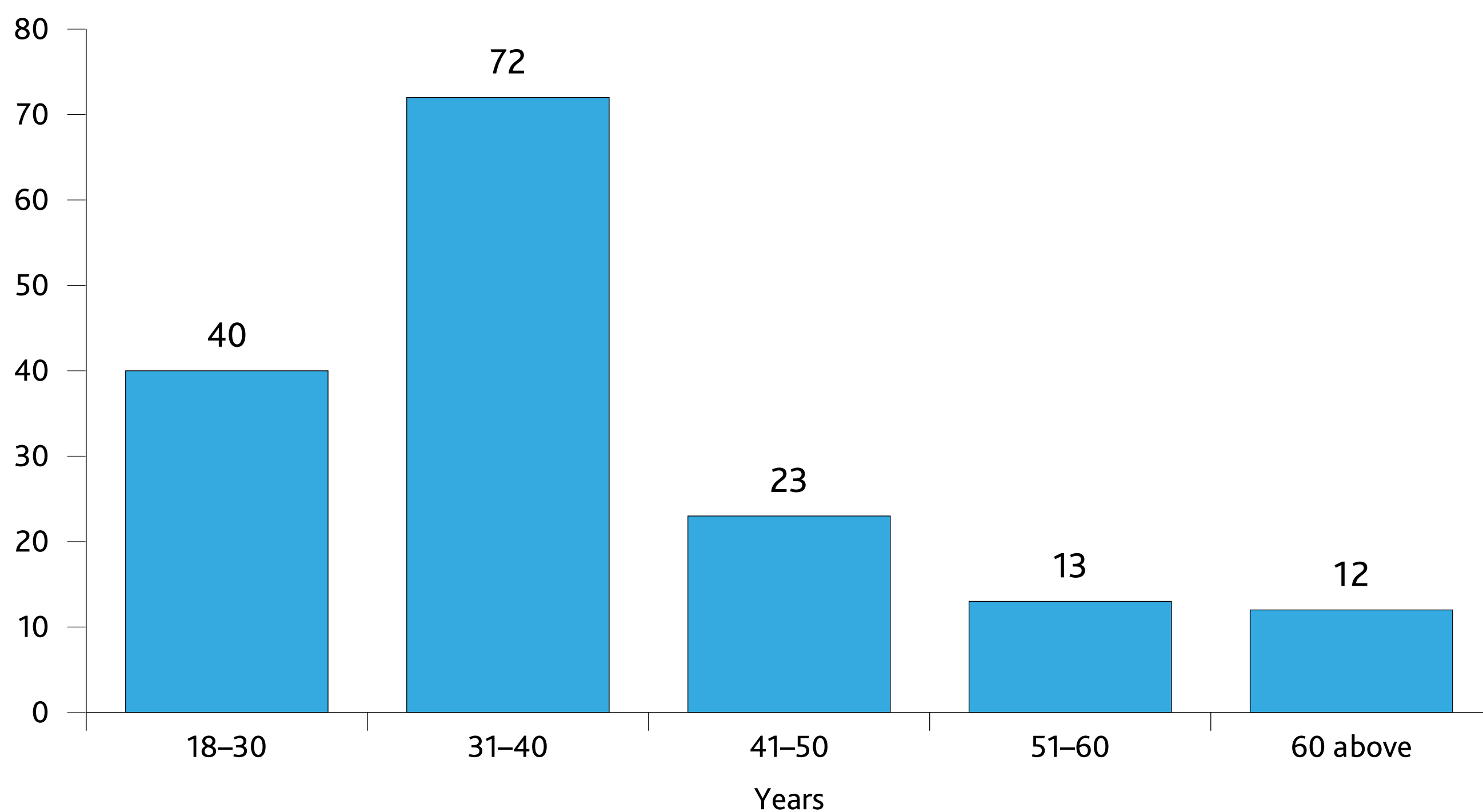
Age of the Respondents

Figure 2. Age of the Respondents

Figure 2 above contains data of the age of respondents. It was indicated that majority of the respondents 72 are of the age range between 31-40 years. This is directly followed by respondents that are of the age range between 18-30 years. This clearly indicated that majority of the hoteliers in the study area are adolescents and early adults who are at the age range capable to handle majority of what it requires by Artificial Intelligence if fully trained and provided with all the necessary requirements.

Table 1. Knowledge of Management and Employees about Artificial Intelligence

Attitudinal Statements	SA	A	D	SD	AM	STD
Artificial Intelligence is a type of knowledge that is new to many people.	58	40	32	30	2.79	1.42
It is widely being accepted by many people regardless of their professions.	42	20	20	78	2.16	1.62
It is proved to be of importance to many individuals/ professions.	81	15	17	47	2.81	1.67
It is giving more opportunities to different people/ businesses.	76	21	18	45	2.80	1.64
It is believed to supersede human knowledge.	42	26	29	63	2.29	1.56

Key: AM (Arithmetic Mean), STD (Standard Deviation)
Source: Field Survey, 2023.

The Statistics in table 1.0 indicated that at a critical value of 2.50, Artificial Intelligence is accepted to be one of the new knowledge areas to human being with a mean score and standard deviation of 2.79 and 1.42 respectively. This is similar to the findings of Cheishvili (2021) that, In the 21st Century, Artificial Intelligence is proved to be one of the major technologies profit-oriented organizations are using in order to achieve their goals. With a mean score of 2.81 and 2.80 respectively, the knowledge is proved to be of importance to many people and is providing opportunities to businesses. This corroborate with the findings of Lacalle (2021) that, artificial intelligence is changing the way businesses are carried out giving more opportunities and possibilities for both employees and customers to a better service experience and helping the growth and development as well as optimization of revenue by the sectors of the industry. However, with a mean score of 2.16 and 2.29 respectively, artificial intelligence is not accepted by many people regardless of their professions as well as it supersedes human intelligence. This contradicts the findings of Lacalle (2021) that, Artificial Intelligence is the ability of a computer or robot to perform the duties and tasks more efficient and effective than performed by a human.

Table 2. Attitude of Management and Employees about Artificial Intelligence

Attitudinal Statements	SA	A	D	SD	AM	STD
Artificial Intelligence is a knowledge used by people unavoidably.	42	22	27	69	2.23	1.58
It is regarded as an aid to curtail human errors.	79	27	13	41	2.90	1.60
It is considered as a way of bursting revenue generation to businesses.	93	21	14	32	3.09	1.53
Employees and customers of hotels prefer to interact with it more than human.	50	13	28	69	2.28	1.64
It is considered faster than human in all hotel business operations.	97	22	10	31	3.16	1.51

Key: AM (Arithmetic Mean), STD (Standard Deviation)
Source: Field Survey, 2023.

The data presented in table 2.0 shows that at a mean score of 2.90, Artificial Intelligence is regarded as an aid to businesses used to curtail human errors that is causing a lot of problems to them. This is similar to the findings of Tella (2022) that, many of the AI gadgets are programmed as such carry out tasks continuously with less mistakes. The findings also indicated that AI is considered as a tool for bursting hotel revenue generation with a mean score of 3.09 and standard deviation of 1.53. This corroborate with Hall (2019) that, big data analytics and machine learning are some forms of Artificial Intelligence tools that can be used by business organisations to boost their return on investment (ROI) as they can gain insight into the business customers needs and demands. With a mean score of 3.16, AI is considered faster than human in all its usage, which agreed with the findings of Axisroom (2022) that, there are instances where many data from various departments, sections and units are brought for analysis at a shortest possible time for operations and it seems numerous to be analyzed by human at the required time, AI tools are in these types of instances applied. AI is not considered to be a knowledge that must unavoidably be applied by humans in their day-to-day activities or businesses (with a mean score of 2.23. this is an indication that, even though they are aware about it but they prefer to interact with human more than the gadgets. It was also with a mean score of 2.28 and standard deviation of 1.64 respectively not considered as a tool that employees and customers prefer to interact with more than humans.

Table 3. Practice of Management and Employees about Artificial Intelligence

Attitudinal Statements	SA	A	D	SD	AM	STD
Artificial Intelligence is widely being used by hoteliers in their business operations.	87	19	12	42	2.94	1.63
The AI gadgets are used by hotels based on the type of products they have to offer to their guests.	74	39	26	21	3.04	1.36
The AI gadgets are programmed by hotels based on the tasks they need to perform.	69	34	29	28	2.90	1.44
It is the tool widely used by hotels in solving many of their business/marketing problems.	57	41	31	31	2.78	1.43
Many hoteliers are sceptical about AI usage in their businesses.	48	18	33	61	2.33	1.59

Key: AM (Arithmetic Mean), STD (Standard Deviation)
Source: Field Survey, 2023.

Information provided in table 3.0 above indicated that at a critical value of 2.50 all the attitudinal statements were considered positive except that "many hoteliers are skeptical about the usage of AI in their business operations. This is at a mean score of 2.33 and standard deviation of 1,59 respectively. The findings clearly indicated that AI is widely being used by hoteliers in their business operations which is also proved to be helping them a lot in solving many of their business problems. This corroborate with the findings of Frackiewicks (2023) that, AI has the capacity to help companies increase their profit margin within a stipulated period. This is because the technology can help businesses to detect weak signals in their operations and even make a positive forecast regarding ingredient prices, as such demand and supply is made easier. This did not contradict the findings of Triendi (2023) that, Chatbot as an AI gadget is used as a marketing tool by hotels which is programmed to aid in communication with customers using either natural language processing or guest's native language.

CONCLUSION AND RECOMMENDATIONS

Artificial Intelligence is a technological tool developed by human with the aim of making operations easier to them. Hotels therefore, are now adopting the technology in many of their operations in order to satisfy the needs and demands of their respective customers and boost their revenue generation. Despite the fact that people and businesses such as hotels are aware about it, but many hotels in the study area are still not adopting it as part of their marketing strategies. Even for those adopting it, they are only using computer excel program in their day-to-day calculations. Insecurity situation in the study area was the major obstacle faced by the researcher on the course of collecting data, as the researcher had to undergo several investigative stages before he was allowed to collect data from the respondents. Since this research is limited to Katsina metropolis, there is need for further research to be carried out in Katsina state and other parts of the country. Based on this conclusion it is recommended that:

1. Hotels should be enlightened on any advancement in technology that can benefit/ increase their revenue generation possibilities.
2. Their employees should be trained on any form of artificial gadget they are to use in their business operations.
3. Unemployment situations should be considered in the study area so as not to replace human with artificial intelligence gadgets.
4. The AI gadgets should only be programmed for the purpose they are expected to perform so as not to complicate issues in the hotel business.
5. Researchers should collect police or other relevant security agencies clearance when carrying out research related to this matter.

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