

A STUDY ON THE IMPACT OF AI ASSISTANT FOR IMPROVING CUSTOMER SERVICE



A report submitted to Department of Commerce, Higher And Technical Institute, Mizoram (HATIM) for the academic year 2023-24

Submitted by: Daniel Lalruatpuia

University Enrolment. No.:2223BCOM006

Prepared under the guidance and supervision of:

Vankhawpuimawii Pachuau

(Assistant Professor, Department of Commerce

Higher And Technical Institute, Mizoram)

CERTIFICATE

This is to certify that the dissertation entitled “A Study on The impact of Ai assistant for improving customer service” submitted to the Mizoram University for the award of the degree of Bachelor of Commerce, is a record of research work carried out by Daniel Lalruatpuia under my supervision. He has fulfilled all the requirement laid down in the MZU regulations of Mizoram University. This dissertation is the result of his investigation in the subject. Neither the dissertation as a whole nor any part of it was ever submitted any other University for any degree.

Date:

Place: Lunglei, Mizoram



(VANKHAWPUIMAWII PACHUAU)

Project Supervisor



(VUANSANGA VANCHHAWNG)

Principal

DECLARATION

I, Daniel Lalruatpuia , hereby declare that the subject matter of this dissertation is the record of work done by me, that the contents of this dissertation did not form to anybody else, and that the dissertation has not been submitted by me for any research degree in any other University or Institute. This is being submitted to the Mizoram University for the degree of Bachelor of Commerce.

Date:

Place: Lunglei, Mizoram

(Daniel Lalruatpuia)

Student

ACKNOWLEDGEMENT

Firstly, I thank the Almighty God for showering his grace upon me throughout my research period. May his name be glorified forever more.

I would like to give my special thanks to the project supervisor Mrs. Vankhawpuimawii Pachuau who is the Head of Department of Commerce for her constant support and tireless guidance.

I would like to extend my gratitude to Mr. Vuansanga Vanchhawng, the Principal of HATIM for giving me the opportunity to undertake this study and prepare a project report on it.

Last but not least, I know that none of this would have been possible without the love and patience of my family. I am thankful to them for being a constant source of love, concern, and strength not only during the course of the study, but always.

Thank you,

Daniel Lalruatpuia

CONTENTS

Table No.	Title	Page No
1	Acknowledgement	
2	List of Tables	
3	List of Figures	
4	Chapter-I	1-3
	Introduction	
	1.1 Conceptual Framework	
	1.2 Literature Review	
	1.3 Statement of the project	
	1.4 Objectives of the project	
	1.5 Research Methodology	
	1.6 Limitation of the Project	
5	Chapter-II	4-9
	Analysis and Interpretation of Data	
6	Chapter-III	10
	Results and Discussions	
7	Chapter-IV	11
	Conclusions and Suggestions	
8	References	12
9	Appendix: Questionnaire	13-16

List of the Table

Table No.	Name of the table	Page no.
2.1	Social background	4
2.2	Respondents' level of understanding about AI compared to their lack thereof	4-5
2.3	The respondents claimed that decision-making is aided by AI.	5
2.4	The quantity of responders Think about an AI helper that is available 24/7.	6
2.5	A portion of participants expressed their preference for using artificial intelligence (AI) to assist in issue solving.	6
2.6	To what extent the customer care representative's advise was clear and helpful	6
2.7	The length of time it took to resolve the issue did not satisfy any respondents?	6-7
2.8	Respondents' Satisfaction Level with Problem Solving	7-8
2.9	Proportion of participants that were happy or unsatisfied with artificial intelligence use.	8
2.10	Individuals who think it's safe to use AI in customer service	8
2.11	To what extent would you suggest AI helper to others?	9
2.12	Customer satisfaction surveys conducted by AI or humans	9

Chapter-I

INTRODUCTION

1.1 CONCEPTUAL FRAMEWORK:

Many data and scientist and market researchers studied the impact of using artificial intelligence (AI) in the market field of several countries.

John Mc Carthy conducted the first academic conference on the intelligence in 1956, which is when the word was first used. But the quest to find out if machines are indeed capable of thinking started far earlier. The ability of a computer to process logic is indisputable. Still, a lot of people don't know if machines can think. There has been substantial disagreement over whether or not this idea can even exist, which makes the precise meaning of thought crucial.

Current State of AI

Businesses and organizations in a variety of industries now have to deal with artificial intelligence (AI) as a technical reality. AI has shown itself capable of increasing process efficiency, lowering labour costs and human error, and extracting insights from massive data- even though its advantages may not always be simple to measure. According to the most recent Artificial Intelligence Index research, the use of AI by large organizations has surged by 47% in 2019 over 2018. AI is now present in a wide range of enterprise applications such as resources planning tools, recruiting services, CRM software and workforce productivity.

As stated in the same research, interest in AI software and startups was evident last year when global private AI investment topped \$70 billion. AI specialists are now among the most in-demand occupations in industrialized nations as a result of the increased in AI and related fields among college worldwide. However, even though its existence isn't usually acknowledged, AI has on a smaller scale, impacted the lives of countless individuals.

Definition of key terms:

- AI is the creation of machines that can carry out complicated activities that humans typically do. Artificial Intelligence (AI) uses remarkable patterns and algorithms to make decisions that often need human intelligence, as opposed to training robots to perform specific jobs. You can literally carry around a basic example of artificial intelligence in your pocket in the shape of Google Home, Microsoft Cortana, or Apple Siri. With a human command, these devices can even launch an application, send a text or phone call, and set an alarm.
- The act of supporting clients who wish to purchase or utilise a specific product is known as customer service. Stated differently, the organisation assists a client in selecting the product that best fits their needs or instructs them on how to use it. Offering such a service helps draw in new clients and provide better quality
- Machine learning is a branch of artificial intelligence where computers are given the capacity to learn from data, examine novel patterns, and make precise predictions without the need for explicit programming. Online purchasing or booking is one instance of this technology that was previously described in the "introduction" section.
- AI can provide the business with a clear understanding of the wants of its clients. It is also used to determine which channel combination best engages the most number of clients.
- Automation: AI has the potential to improve workflow's efficacy and efficiency. This allows marketers to focus more on strategy, innovation, and working more efficiently to get better outcomes.

1.2 LITERATURE REVIEW

1. Sangroya, Saini & Anantaram (2017) – It presents a new framework in which a chatbot can act as a mediator of technology and consumers, concluding that the technology presented as a finite state machine, quickly, adapts to the needs of the user which has long-term advantage, such as collaborating on important decisions.
2. Leung & Wen (2020)- They explored the perspectives and attitudes of consumers when making use of chatbots in takeout request in restaurants, concluding that the use of chatbots has advantages in more effective orders compared to traditional taking less time, so consumers felt more satisfied.
3. Libai, et al (2020)- It shows an analysis of the way in which technology has effects on communication with consumers, examining the capabilities of artificial intelligence in transforming in the acquisition and the loyalty of consumers, concluding that technology has contributors such as simple improvements to skillful procedures, however they have not been as expected that is they did not manage to be high.
4. Akhtar, Neidhard & Werthnet (2019)- this article analyzes the chat conversations between customers and the chatbot of a telecommunications company to see if their interactions can be used to identify topics of interest and user satisfaction, obtaining as a result that there must be improvements with respect to the following concepts: offer of basic and additional service packages, notice time and online invoices, which should be more detailed, reconsidering and adjusting them to perfect the response options.
5. Nuruzzaman & Khandeer(2020)- They analyze the working styles of existing chatbots and then propose a dialogue-based chatbot, using various techniques that generate a response with an intelligent chatbot concluding that this evidence is superior by providing the consumer with a complete and dedicated response to dialogue.
6. Yan, et al. (2016)- They present a chatbot model that uses a serverless system, whose design encompasses functionalities of beneficial actions, concluding that the model is scalable, extensible and accepts several ways of interacting with consumers, which contributes to the identification of bottlenecks by having XML communication strategies.
7. Hu, et al. (2018)- In this research, a chatbot was created that recognizes the tone and generates responses as human agents according to user requests, so it is concluded that technology is beneficial by elevating the consumer experience, that is empathy and passion are present, integrating the data in the generation of understandable answers according to what is queried.
8. Lubbe & Ngoma (2021)- The research gives us information about the useful experiences that chatbots provide us in customer experiences and how these experiences affect user satisfaction in a market context, obtaining as a result that the experience predicted consumer satisfaction, concluding that marketers should invest costs, infrastructure and time to the development of service technology, there being the chatbots, the same ones that are helpful to create techniques that elevate the experiences of the person.

1.3 STATEMENT OF THE PROBLEMS:

AI technology has been introduced to humanity as a result of technological advancements. When used appropriately, it greatly aided many young people in both their business and academic endeavours. The elderly do not use AI technology as often since some of them are too old to use smartphones or the internet. Artificial Intelligence (AI) technology solves problems the quickest and makes our work more comfortable. To employ this AI technology, we must advance our mental and skill sets.

Although it is the quickest and easiest technology we use, it can also have bad effects on our usage because it encourages laziness and a reduction in the amount of cognitive activity we do. Nevertheless, it is still highly helpful for customer service.

1.4 OBJECTIVE OF THE STUDY

1. To assess the effectiveness of chatbots and AI assistants in resolving customer queries and issues.
2. To explore customer satisfaction levels with chatbot interactions compared to human interactions.
3. To investigate the impact of AI assistants on customer loyalty and repeat business.
4. To identify the potential limitations and challenges in the use of assistants for customer service.

1.5 RESEARCH METHODOLOGY:

1.5.1 Scope of the study:

The study is focusing on the artificial Intelligence by improving customer service among the youth. The study focuses on social media, monitoring, voice recognition, speech analytics, chatbots, and self-service portals as the four main AI integration components. Through meticulous story analysis, this study provides insights into the transformative potential of AI in customer service management.

1.5.2 Sampling:

The present study is conducted in Lunglei i.e among the Youth ,the 2nd largest district in the state of Mizoram. For the purpose of the study, 45 respondents were selected as samples by using random sampling method.

1.5.3 Data Collection:

Primary data were collected by using structured questionnaire. The questionnaire was distributed to the respondents through google form. Secondary data were collected through journals and thesis published, reports, existing research articles and various website on the internet.

1.6 LIMITATION OF THE STUDY:

1. Since time is limited for the Survey and collection of data, the information of this projects is only in brief.
2. The primary data collection and interpretation were found to be time consuming.
3. Only 45 respondents were covered and included in the study for the interpretation and making conclusion.
4. The study is mainly concentrated on the impact of AI Assistant for improving customer service among the youth.

CHAPTER - II

ANALYSIS AND INTERPRETATION OF DATA

2.1: Social Background:

This section discusses the social background of the respondents such as age, gender, marital status, educational qualification and so on. This chapter also analyze and evaluate the factors influencing AI assistant toward customers.

Table 2.1 Demographic Profile

Demographic Profile	Classification	No. of Respondents (N=45)	Percentage(%)
Gender	Male	30	66.67
	Female	15	33.33
Age	1-10	0	0.00
	11-20	20	44.44
	21-30	25	55.56
	31-40	0	0.00
Marital Status	Single	41	91.11
	Married	0	0.00
	Separated	0	0.00
	Prefer not to say	4	8.89
Educational Qualification	HSLC	1	2.22
	HSSLC	36	80.00
	Graduate & above	8	17.78

Interpretation:

According to table 2.1, out of 45 respondents, 30(66.67%) were male and 15(33.33%) of the respondents are female.

As shown in the above table,44.44% of the respondents are in the age group of 11-20 years and 55.56% of the respondents belong to 21-30 years of age.

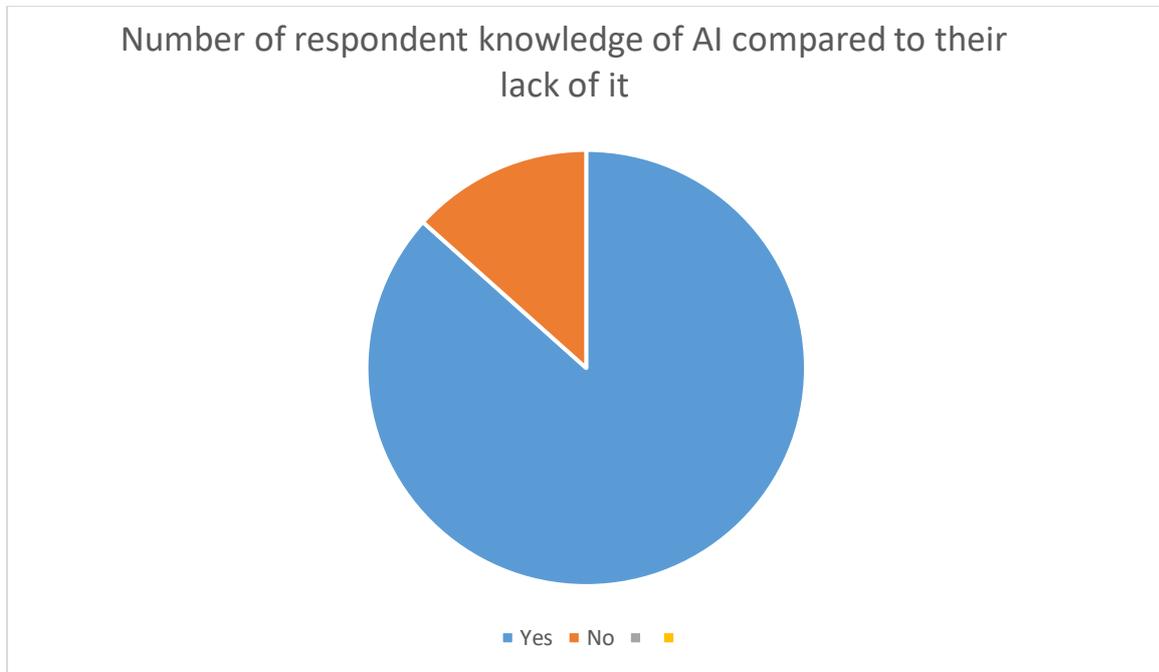
Out of 45 respondents, majority of them are single with the percentage of 91.11% and the remaining 4(8.89%) respondent prefer not to say.

Out of 45 respondents,8(17.78) of them were graduate students. 36(80.00%) of the respondents have HSSLC and the remaining 1(2.22%) has HSLC.

2.2 The knowledge of AI among respondents in comparison to their ignorance of it.

Options	Count	%
---------	-------	---

Yes	39	86.67
No	6	13.33



Interpretation:

Figure 2.2 demonstrates that 86.67% of respondents knew something about artificial intelligence (AI), whereas 13.33% had no idea what it was.

2.3 Number of respondents that believe AI assistant aids in making decisions:

Options	Count	%
Yes	13	28.89
No	2	4.44
Sometimes	29	64.44
Never	1	2.22

Interpretation:

Table 2.3 reveals that 28.89% of respondents believe in AI, 64.44% believe in it sometimes, and the remaining 4.44% say they don't know and 2.22% think they never will.

2.4 Number of respondents Consider an AI assistant that is accessible around-the-clock.

Options	Count	%
Yes	37	82.22
No	8	17.78

Interpretation:

According to Table 2.4, 82.22% of respondents think AI assistants are available around-the-clock, while 17.78% do not believe it at all.

6

2.5 Percent of respondents said they would rather use AI to help them solve problems.

Options	Count	%
Sometimes	31	68.89
Maybe	11	24.44
Always	3	6.67

Interpretation:

Table 2.5 above demonstrates that 6.67% of respondents think they are useful in issue solving, 68.89% say they are sometimes helpful, and the remaining 24.44% say maybe helpful.

2.6 To what extent the customer care representative's advise was clear and helpful

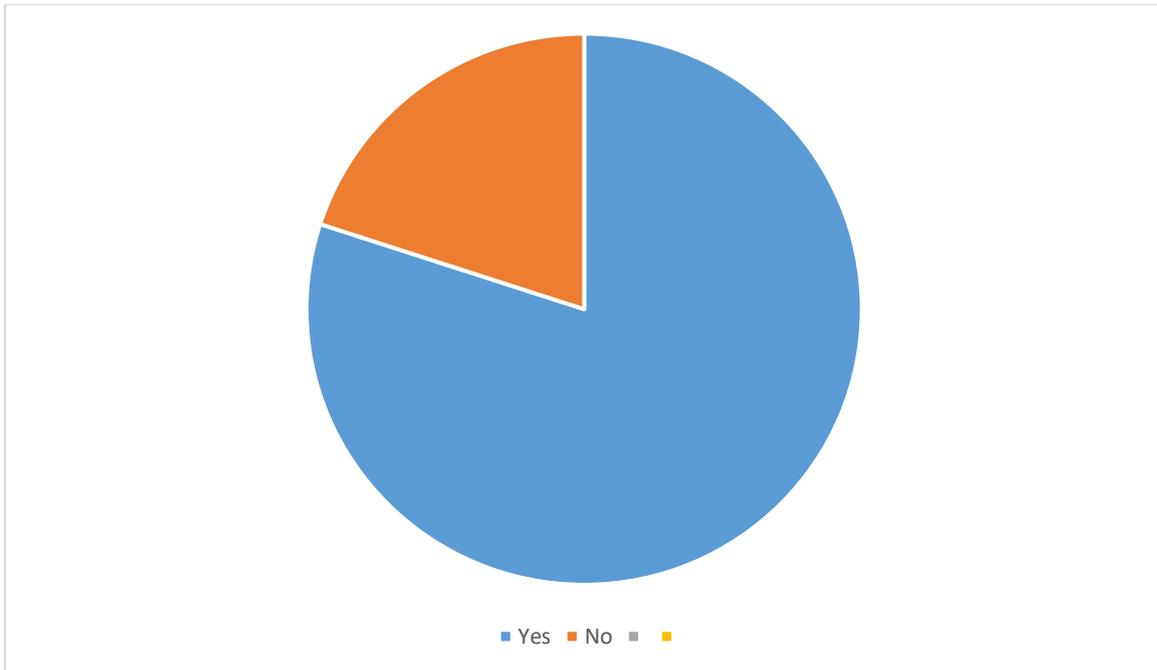
Option	Count	%
Helpful	15	33.33
Not Helpful	2	4.44
Neutral	28	62.22

Interpretation:

According to Table 2.6, 62.22% of respondents claim it is unbiased, 33.33% feel the advise given for customer service is beneficial, and the rest respondents claim it is not so helpful.

2.7 No of respondents satisfied with how long it took to fix the issue?

Options	Count	%
Yes	36	80.00
No	9	20.00

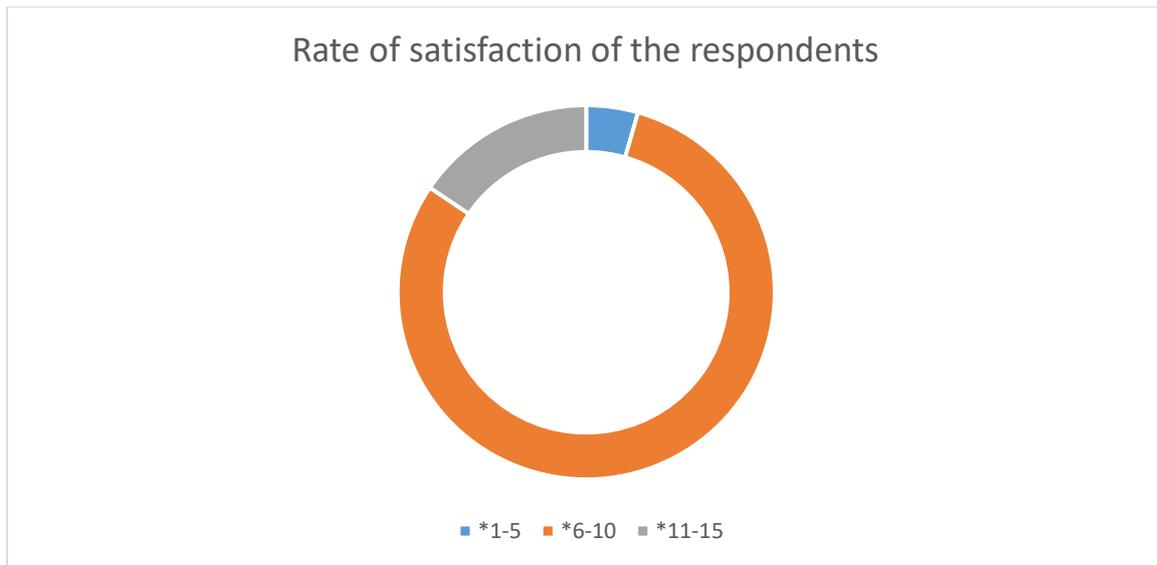


Interpretation:

The following table shows that 80% of respondents were satisfied with the amount of time needed to solve problems, while the remaining 20% expressed no happiness at all.

2.8 Rate of Satisfaction with Problem Solving by Respondents

Options	Count	%
1-5	2	4.44
6-10	36	80.00
11-15	7	15.56



Interpretation:

According to Figure 2.8, 80% of respondents give it a score of 6–10, 4.44% give it a score of 1–5, and the remaining 15.56% give it a score of 11–15.

2.9 Percentage of respondents who expressed satisfaction versus dissatisfaction when using artificial intelligence.

Option	Count	%
Very Satisfied	1	2.22
Satisfied	23	51.11
Neutral	17	37.78
Not Satisfied	4	8.89

Interpretation:

We can observe from the previous statement that 51.11% were satisfied, 2.22% were very satisfied, 37.78% were neutral, and 8.89% were not satisfied with their interactions with AI.

2.10 Respondents who believe utilising AI in customer service care is safe

Options	Count	%
Very safe	2	4.44
Somewhat Safe	23	51.11
Not so safe	17	37.78
Not at all safe	3	6.67

Interpretation:

As can be seen in Table 2.10, 4.44% of respondents believe it is extremely safe, 51.11% say it is somewhat safe, 37.78% say it is not safe for customer service, and the remaining 6.67% say it is completely not safe.

2.11 To what extent would you suggest AI helper to others

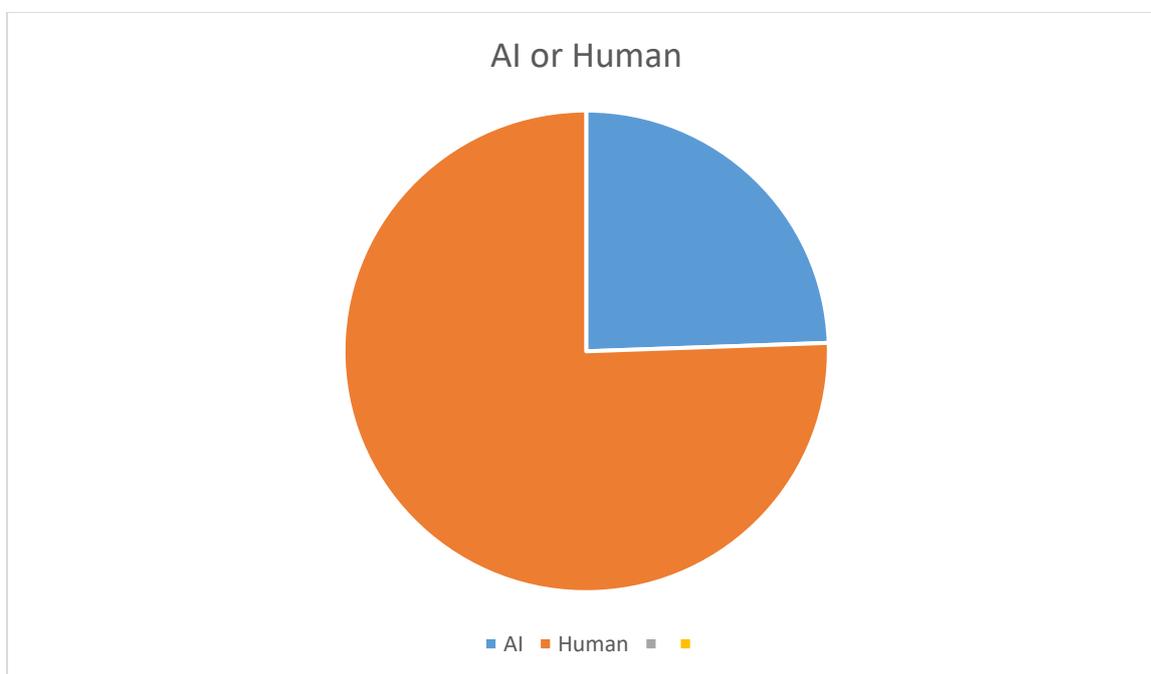
Recommended	33	73.33
Not Recommended	12	26.67

Interpretation:

According to the aforementioned statement, 73.33% of respondents, or the majority, suggested AI helper to others, while 26.67% did not recommend it.

2.12 Respondent count for AI or human customer satisfaction

AI	11	24.44
Human	34	75.56



Interpretation:

Even though we now live in a world of artificial intelligence (AI), it is clear from the aforementioned remark that the majority of respondents were still happy with human customer care. Of those surveyed, 75.56% choose human customer support, while 24.44% favour artificial intelligence.

Chapter-3

Results and Discussions

Results:

This Chapter contains the results and discussion of the data. The following are the main findings of the present study.

- 1) Of the 45 responders, 30 (66.67%) were found to be male and 15 (33.33%) to be female.
- 2) Of the respondents, 55.56% fall into the 21–30 age group and 44.44% fall into the 11–20 age group.
- 3) It was discovered that eight of the respondents were graduates or higher, while 36 of the respondents passed their HSSLC and 1 earned their HSLC.
- 4) It was discovered that 86.67% of participants were somewhat knowledgeable about artificial intelligence (AI), whereas 13.33% were not familiar with the term.
- 5) 28.89% of respondents said they believed in artificial intelligence (AI), 64.44% said they believed in it occasionally, 4.44% said they didn't know, and 2.22% said no.
- 6) 51.11% expressed satisfaction, 2.22% expressed great satisfaction, 37.78% expressed neutrality, and 8.89% expressed dissatisfaction with their contacts with AI.
- 7) 47.78% of respondents say it is not safe for customer service, 51.11% feel it is somewhat safe, 4.44% of respondents think it is extremely safe, and the remaining 6.67% say it is entirely unsafe.
- 8) The findings reveal that 62.22% of participants assert that the advice provided for customer service is impartial, 33.33% believe it is advantageous, and the remaining participants believe it is not very useful.
- 9) Despite the fact that we currently live in an artificial intelligence (AI) society, the majority of respondents were clearly satisfied with human customer care, as evidenced by the above statement. A study of respondents indicated that 24.44% preferred artificial intelligence and 75.56% preferred human customer care.

Discussions:

The youth of Lunglei Town are the subjects of the research. The majority of responders, according to the report, are students. The results showed that while the majority of student respondents were somewhat aware with AI, they were not familiar with AI customer service. Most student responders concurred that studying AI is beneficial for their academic work. The majority of the adolescent and young respondent respondents, according to the report, still choose human customer service over artificial intelligence.

CHAPTER-4

CONCLUSIONS AND SUGGESTIONS

Suggestions:

- 1) Localized Knowledge: AI can be programmed with information specific to our local town, such as local business, events and attractions.
- 2) Tailored suggestions: AI is capable of making recommendations for regional goods, services, and activities that are specific to each user's tastes.
- 3) Proactive Assistance: AI is able to foresee client requirements and provide proactive assistance before the client even asks for it.
- 4) Empathy: AI ought to be taught to be understanding and empathic towards the problems raised by users.

Conclusions:

Customer service has significantly improved because to artificial intelligence. Businesses may give 24/7 support, prompt responses, and individualised assistance to customers based on their data, preferences, and previous interactions through chatbots and virtual assistants powered by artificial intelligence (AI). From there, customised recommendations and solutions can be provided. In addition to lowering wait times, this boosts efficiency. In summary, artificial intelligence has transformed customer service by improving its effectiveness, personalisation, and convenience for both clients and companies.

Reference

- Mohannad A. M. Abu Daqar^{1*}, Ahmad K. A. Smoudy² - The Role of Artificial Intelligence on Enhancing Customer Experience.
- Len Nakonechny (Sep12,2023) - The Impact of Artificial Intelligence on Customer Service: Revolutionizing Customer Support.
- Rania Mar 14, 2023- The impact of AI on customer service and experience.
- Bouchra El Bakkouria *, Samira Rakib , Touhfa Belgnaouic (August 9-11, 2022) -The Role of Chatbots in Enhancing Customer Experience.
- Joshi Sujata, Das Aniket, Matta Mahasingh (July 2019)- Artificial Intelligence Tools for Enhancing Customer Experience.
- Sarah Cuellar (November 9, 2023) - The Increasing Impact of AI in Customer Service.
- Libai, et al (2020)- On AI and the Management of Customer Relationships.
- Leung & Wen (2020)- Chatbot usage in restaurant takeout orders: A comparison study of three ordering methods.
- Akhtar, Neidhard & Werthnet (2019)- The Impact of Chatbots on Customer Satisfaction.
- Lubbe & Ngoma (2021)- Useful chatbot experience provides technological satisfaction: An emerging market perspective.

QUESTIONNAIRE

A STUDY ON THE IMPACT OF AI ASSISTANT FOR IMPROVING CUSTOMER SERVICE

1.Age

- 1) 1-10 []
- 2) 11-20 []
- 3) 21-30 []
- 4) 31-40 []

2.Gender

- 1) Male []
- 2) Female []

3. Marital status

- 1) Single []
- 2) Married []
- 3) Separated []
- 4) Prefer not to say []

4.Education Qualification

- 1) HSLC []
- 2) HSSLC []
- 3) Graduate & Above []

5.Do you know what is an AI assistant

- 1) Yes []
- 2) No []

6.Do you think an AI assistant helps in decision making?

- 1) Yes []
- 2) No []
- 3) Sometimes []
- 4) Never []

7 Do you think an Ai assistant available for 24/7 ?

- 1) Yes []
- 2) No []

8.Do you think AI assistant are helpful in problem solving?

- 1) Sometimes []

- 2) Maybe []
- 3) Always []

9.How helpful and clear was the advice the customer service representatives provided?

- 1) Helpful []
- 2) Not helpful []
- 3) Neutral []

10.Are you happy with the time taken to resolve the problem?

- 1) Yes []
- 2) No []

11.Rate your satisfaction with AI assistant in resolving your problem

- 1) 1-5 []
- 2) 6-10 []
- 3) 11-15 []

12.On a scale of 1-10, how satisfied are you with AI assistant customer service

- 1) 1 []
- 2) 2 []
- 3) 3 []
- 4) 4 []
- 5) 5 []
- 6) 6 []
- 7) 7 []
- 8) 8 []
- 9) 9 []
- 10) 10 []

13.Were you satisfied when interacting with the Artificial intelligence

- 1) Very satisfied []
- 2) Satisfied []
- 3) Neutral []
- 4) Not satisfied []

14.Do you think AI simplify your data management

- 1) Yes []
- 2) No []

15.Do you think AI voice recognition is suitable to receive and interpret dictation or to understand and perform spoken commands

- 1) Yes []
- 2) No []

16. Do you think add self service support and use AI to show learning modules based on user needs and segmentation

- 1) Yes []
- 2) No []
- 3) Sometimes []
- 4) Never []

17. The rise of AI poses a threat to people's job security

- 1) Agree []
- 2) Neutral []
- 3) Disagree []

18. AI is limited in its abilities

- 1) Agree []
- 2) Neutral []
- 3) Disagree []

19. AI system can help people feel happier

- 1) Agree []
- 2) Neutral []
- 3) Disagree []

20. Do you think it is safe using AI technology in customer service care

- 1) Very safe []
- 2) Somewhat safe []
- 3) Not so safe []
- 4) Not at all safe []

21. Is it okay that automate email responses with AI to tag customer emails and send automated replies when it fits

- 1) Somewhat safe []
- 2) Not at all safe []

22. Adding chatbots to your website, using natural language processing (NLP) to host real conversational with customer.

- 1) Yes []
- 2) No []
- 3) Sometimes []
- 4) Never []

23. How likely are you to recommend (Ai assistant) to others

- 1) Recommended []
- 2) Not recommended []

24. Describe how you feel about (AI assistant)

- 1) Good []
- 2) Bad []
- 3) Neutral []

25. AI or Human are satisfied in customer service

- 1) AI []
- 2) Human []

