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Artificial Intelligence as a means
of improving satisfaction among consumer
in Online Dispute Resolution

By

Marysol Tellez Lorenzo

A dissertation presented to the

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CONTENTS

ABSTRACT

How online shopping businesses manage customers' conflicts to diminishing customer dissatisfaction is considered a critical strategy. Changes in customer behaviour and the need for immediate responses to their complaints make the implementation of new technologies necessary.

The aim of this research is to investigate how online buyers in Dublin city perceive interactions with Artificial Intelligence implemented in customer service for online shopping to resolve conflicts, and if and integration with Alternative Dispute Resolution may result in an effective tool to lower levels of customer dissatisfaction, by using a quantitative method to collect information.

In this paper, the author

1) Investigates current consumers preferences, attitudes and perceived benefits from their interactions with AI in online shopping customer service;

2) Investigates online consumers preferred channels to resolve conflict in online shopping customer service;

3) Investigates the attitude of online consumers towards the integration of AI and ADR in online customer service to resolve conflict;

4) Seeks effective ways of improving customer satisfaction by examining consumers considerations to improve their experiences in trying to resolve disputes in online customer service; and

5) Provides guidelines for successful implementation of Alternative Dispute Resolution assisted by Artificial Intelligence for customer service in resolution of consumer's conflicts in online shopping.

Methodology

This study is based on a deductive methodology where a sample of 96 online shopping customers was investigated from an online survey in Dublin city.

The findings of the study suggest that it is necessary to predict customer's attitude towards adopting innovations to successfully implement strategies such as ADR assisted by AI to improve the online shopping experience, processes and satisfaction of customers, and learn how to reshape the way that conflict generated from online shopping is managed.

The study findings suggest that:

1) The amount of information given to the customers must be detailed. Dissatisfaction increases when not enough information is available, what lead them to be resilient to adopting innovations;

2) Customers demand a rapid response to their inquiries, particularly when they are trying to resolve a conflict, this affects their levels of satisfaction in a negative way;

3) The past experiences of customers can influence their attitudes towards adopting innovation;

4) Today, customers feel excited to try new innovations.

The principal conclusions of this study are:

1) Strong communication and keeping customers well informed will make them adopt new innovations;

2) The response speed to inquiries is very important in online customer satisfaction, especially when they are trying to resolve a conflict;

3) Consumers interest to adopt innovations displays a need to develop strategies to convince them of the benefits of these innovations, how they can be a positive impact, and the improvements in online processes to obtain higher levels of satisfaction;

4) ADR assisted by AI in online shopping customer service will improve customer satisfaction.

GLOSSARY

AI - Artificial Intelligence

ADR - Alternative Dispute Resolution.

Multinomial regression - Used to predict a nominal dependent variable given one or more independent variables. It is sometimes considered an extension of binomial **logistic regression** to allow for a dependent variable with more than two categories.

Odds - An odds ratio (OR) is a measure of association between a certain property A and a second property B in a population. Specifically, it tells how the presence or absence of property A has an effect on the presence or absence of property B.

Trade-off - It is a situational decision that involves diminishing or losing one quality, quantity or property of a set or design in return for gains in other aspects. In simple terms, a **trade-off** is where one thing increases and another must decrease.

CHAPTER I

Introduction

As the number of consumers gathering product information, comparing prices and making purchases online at any time increases, so does the number of complaints and disputes. Online transactions need the implementation of mechanisms for a legal framework that protects both consumers from purchasing online, and companies from entering the online market.

Generating customers satisfaction is the goal of online business to ensure their permanence (Eid 2011)[1], yet they cannot guarantee the satisfaction of customers, they can introduce new technologies and methods to achieve customer' satisfaction. The importance of customer satisfaction is based on the aim of increasing customers repurchase intentions (Fornell & Wernerfelt, 1987).[2] Dissatisfaction can be assumed to lead to customers reduced purchase intentions (Lam et al., 2004).[3]

However, Bitner et al. (1990)[4] highlight that; customers often decide to leave a supplier because of inadequate responses rather than dissatisfying problems. Based on the assumption that customers often complain before they leave suppliers, service recovery and complaint management efforts are employed as the main methods for retaining customers (Holloway & Beatty, 2003; Schoefer & Ennew, 2005).

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[1] Eid, M. I. (2011). *Determinants of E-Commerce Satisfaction, trust, and loyalty in Saudi Arabia.* Journal of Electronic Commerce Research, Vol. 12, No. 1: 78-93.

[2] Fornell, C. and Wernerfelt, B. (1987). *Defensive Marketing strategy by customer complaint management: a theoretical analysis.* Journal of Marketing research, Vol. 24, No. 4: 337-346.

[3] Lam, S. Y., Shankar, V., Erramilli, M. K., and Murthy, B. (2004). *Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context.* Journal of the Academy of MarketingScience, Vol. 32, No. 3: 293-311.

[4] Bitner, M. J., Booms, B. H., and Tetreault, M. S. (1990). *The service encounter: diagnosis favorable and unfavorable incidents.* The Journal of Marketing, Vol. 54. No. 1: 71-84.

The integration of Alternative Dispute Resolution (ADR) and Artificial Intelligence (AI) in online business offers many advantages for the businesses trying to achieve a high level of customer satisfaction by improving the efficiency of responses and decreasing uncertainty over the legal framework in transactions.

Over litigation, ADR can be faster with lower costs. People have the opportunity to tell their story from their perspective, it is more flexible and responsive to the individual needs of the people involved, it is more informal, the parties' involvement in the process creates a greater commitment to the result so that compliance is more likely, the confidential nature of the process, it is more likely to preserve goodwill or at least not escalate the conflict, which would be especially important when trying to increase satisfaction and promote a continuing relationship with customers.

The Organisation for Economic Co-operation and Development (2016) guidelines encourage businesses, consumer representatives and governments to work together to provide consumers with meaningful access to fair and timely Alternative Dispute Resolution and obtain redress, without incurring unnecessary cost or burden, with special emphasis on the innovative use of information technologies in implementing ADR systems stated under the principle V.

The EU has addressed this issue in the European 'Directive on electronic commerce' (2000/31/EC). Article 17 states that 'Member States shall ensure that, in the event of disagreement between an Information Society service provider and the recipient of the service,

their legislation does not hamper the use of out-of-court schemes, available under national law, for dispute settlement, 'including appropriate electronic means' (EUR-Lex, 2000).[5]

The European Union Court of Justice has recognised the right to valid remedies as a general principle of EU law and this has been reinforced by Article 47 of the Charter of Fundamental Rights of the European Union where, "in promoting access to justice, a modern civil justice system should offer a variety of approaches and options to dispute resolution as citizens should be empowered to find a satisfactory solution to their problem which includes the option of a court-based litigation but as part of a wider menu of choices"(European Union Agency for Fundamental Rights, 2011).[6]

A technological revolution is happening worldwide. In Europe, The approach of the The European Commission to Artificial Intelligence and robotics is seeking to keep organizations at the forefront as Artificial intelligence (AI) has become an area of strategic importance and a key driver of economic development that can bring solutions to many societal challenges.[7]

In conjunction with ADR, the aim of the design of Artificial Intelligence is that it can take over the role of the judge, the creation of systems that would not only decide cases but also provide justification for their decisions, like so-called expert systems or knowledge-based systems.

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[5] EUR-Lex (2000). *Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular, electronic commerce in the Internal Market ('Directive on electronic commerce').*

[6] European Convention of Human Rigths (2010). *Convention for the protection of human rights and fundamental freedoms, Art. 6. Right to fair trial.*

[7] Cath, C., Wachter, S., Mittelstadt, B., Taddeo M., Floridi, L. (2018). *Artificial Intelligence and the 'Good Society': the US, EU, and UK approach.* Oxford Internet Institute, University of Oxford. The Alan Turing Institute, headquartered at the British Library, United Kingdom. In October 2016, the White House, the European Parliament, and the UK House of Commons each issued a report outlining their visions on how to prepare society for the widespread use of AI. Available at: https://ora.ox.ac.uk/objects/uuid:12f825d6-d2cc-41c9-b2a8-7456994a64da/download_file?safe_filename=AI%2Band%2Bthe%2BGood%2BSociety.pdf&file_format=application%2Fpdf&type_of_work=Journal+article [Accessed: August 5th, 2019]

In order to build robust models at the core of AI-based systems, The European Commission has adopted legislation[8] to improve data sharing and open up more data for reuse, as high-quality data is a key factor to improve performances.

In the online shopping field, The AI in CX Consumer Survey carried out by Capgemini Research Institute (2018)[9] showed that organizations are increasingly adopting conversational chatbots to provide customer service. Also, Zamora (2017)[10] affirms that AI has grown in popularity for simulating conversations between bots and humans, particularly on mobile platforms.

AI experiences can happen through various interactions and can be more or less valuable depending on the context. Curiosity and interest may spark an initial interaction. In this context, Zamora (2017) points out that to add more value to on-going interactions, researchers should identify a broadly acceptable role that has a defined purpose. What AI is, and how to use it effectively.

Determining the preferred interactions of online shoppers to resolve disputes means understanding the preferences and expectations of the individuals involved. Rather than defining a purpose based on the AI creator's perspective, this investigation takes a user-centred approach to understand how integrating AI and ADR would be perceived and experienced by online shoppers. By understanding this, we can begin to evaluate if the purpose of this integration will perform in the aim to lower the level of dissatisfaction experienced by customers.

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[8] European Union. (2016). *European Union (EU) General Data Protection Regulation 2016/679.* Brussels Belgium. http://ec.europa.eu/justice/data-protection/reform/files/regulation_oj_en.pdf. pp. 21. The GDPR came into effect in 2018.

[9] Capgemini Research Institute (2018). *The secret to winning customer's hearts with Artificial Intelligence adds human intelligence.* Capgemini Research Institute, AI in CX Consumer Survey.

[10] Zamora, Jennifer (2017). *I'm Sorry, Dave, I'm Afraid I Can't Do That: Chatbot Perception and Expectations.* Google, Inc. Bielefeld, Germany.

This study focuses on the following objectives:

1) Understand user perception, expectations of Artificial intelligence and its use in online shopping customer service to deal with disputes;

2) Surface preferences for interactions in online shopping customer service and

3) Identify if the integration of Alternative Dispute Resolution assisted by Artificial Intelligence in online shopping customer service would add a meaningful contribution to online shopping by lowering the levels of customer dissatisfaction.

This paper starts with the problem statement, explaining the background and relevant research about ADR and AI. This first part will describe ADR in general and the major forms. This is then followed by a description of online dispute resolution (ODR), focusing on AI used for negotiation and mediation.

Next, an explanation of the methodology that will be used to evaluate consumer's perception and expectation from the integration of AI and ADR in customer service in online shopping. In the final part, I will try to answer under what conditions this integration could be used as a strategy in online shopping to lower the level of dissatisfaction of customers from Dublin city and give recommendations for making this integration possible.

Finally, a discussion of the implications of the qualitative insights will be carried out and it will conclude with areas for future work.

Problem Statement

The emerging culture of customisation of the online shopping industry making it necessary to acquire knowledge about customers' daily experiences of their interactions with the industry. Artificial Intelligence emerged in the form of database intelligence to cover the need to understand customers' preferences and behaviours, with the aim to adapt products, services, and their customer service to satisfy each of them, collecting mainly quantitative data about customer's virtual interactions.

However, there is no real understanding of how consumer satisfaction is affected when they are interacting with AI to resolve disputes versus human contact. It is not sufficient to know how many consumers are aware of their daily interactions with AI (Zamora, 2017), but how their attitudes towards the adoption of an innovation and the variables that influence them to perform a behaviour affect their levels of satisfaction, in the specific case of Alternative Dispute Resolution in online shopping customer service.

As well, numerous projects are ineffective at treating this problem; instead, they are becoming more technically complex and challenging (McCarthy, 1990).

The importance of developing an understanding of how the integration of ADR assisted by AI in online shopping customer service affects the levels of satisfaction of consumers is essential to help managers overcome future barriers and resistance to change, and trace methods to deal with disputes.

Social actors, such as online shoppers planned to study in this investigation, may place many different interpretations on AI and ADR on the online shopping industry. So, individual consumers will perceive different situations in varying ways as a consequence of their own view

of the world. These different interpretations are likely to affect their actions and the nature of their social interactions with others (Saunders, Lewis and Thornhill 2009).[11]

Consumers studied not only interact with their environment but they also seek to make sense of it through their interpretation of events and the meanings that they draw from this event. In turn, their own actions may be seen by others as being meaningful in the context of these socially constructed interpretations.[12] Therefore, it is the role of this researcher to seek to understand the consumer's perceptions and expectations.

Customer service in an organisation has a reality that is separate from the consumers that perceive that reality. The subjectivist view is that customer service is produced through the social interaction between service providers and consumers and is continually being revised as a result of this. At no time is there a definite entity called 'customer service', it is constantly changing (Saunders, Lewis and Thornhill 2009).

In summary, there is a need for a better understanding of the perceptions and expectations of consumers trying to resolve disputes when AI is used in an online shopping environment. In particular on the levels of dissatisfaction or satisfaction arising from these interactions. More specifically, the following research questions need to be addressed:

What are the benefits that customers expect from integrating ADR and AI with customer service and online shopping?

Do consumers prefer human contact, intelligent bots or a combination of both to resolve disputes in online shopping?

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[11] Saunders, M., Lewis, P., & Thornhill, A. (2009). *'Research method for business students (5th ed.).'* England: Pearson Education Limited.
[12] *Id.*

Will online shoppers perceive AI as an impartial judge that will come with an unbiased resolution for a dispute in customer service?

Does the integration of AI and ADR improve satisfaction in customers by improving the quality and response time as well as playing the role of an impartial judge?

List of Tables/Graphics

The body of the dissertation includes the following:

Tables

Graphics

CHAPTER II. AIMS AND OBJECTIVES

The purpose of this study is to explore attitudes and perceptions of online shoppers from their interactions with Alternative Dispute Resolution assisted by Artificial Intelligence in online customer service for dispute resolution. Additionally, levels of satisfaction in customers are examined to determine if there is an increase or decrease as a result of this integration.

Lack of prior literature on the attitudes and perceptions of customers dealing with conflict in online shopping customer service with ADR assisted by AI presents a problem for managers looking to implement strategies to increase the levels of satisfaction in customers.

The identified objectives of this study are:

1. Describe online consumer's attitudes towards the use of AI in online shopping customer service.

2. Identify online consumers preferred channel to contact customer service online.

3. Identify the preference of online consumers to use an online chat for customer service.

4. Explain the attitude of online consumers towards the use of AI in online shopping customer service to resolve conflict.

5. Identify the attitude of online consumers towards the capabilities of AI compared to humans to provide customer service in online shopping.

6. Explain the perceived benefits of online consumers associated with the use of AI to resolve a dispute in online customer service.

7. Discover how online consumers rate humans and AI in online customer service.

8. Describe the attitude of online consumers towards AI's potential to improve online shopping customer service.

9. Discover the attitude of online consumers towards AI's potential for resolving conflict in online shopping customer service.

10. Describe the attitude of online consumers towards speeding up the resolution of disputes in online shopping customer service using ADR assisted by AI.

11. Identify the perceived levels of satisfaction of online consumers towards a resolution/consideration from ADR assisted by AI in online shopping customer service for dispute resolution.

12. Explore what online consumers consider important to improve with regard to dispute resolution in online shopping.

13. Describe online customers in terms of their demographics.

14. Test the theory of planned behaviour and describe the relationship between the attitude online consumers, subjective norm and perceived behavioural control in predicting intentions to participate in resolving disputes in online shopping with ADR assisted by AI, and the impact on the level of satisfaction.

15. Determine the amount of unique variances between levels of satisfaction from the integration of AI and ADR on online shopping customer service and demographics.

The result of this study will be valuable for industry managers to better understand the thoughts of consumers around the implementation of new technologies and methods to resolve disputes in customer service in a constant changing industry as online shopping is; as well it could also serve as a guide to make the implementation of tools with meaningful understanding of online consumers easier.

Limitations

The questionnaire was undertaken online so respondents could skip some questions. More than 100 answers were collected. However, some of them were deemed unusable due to missing information for the purpose of the research.

Appendix F displays all the answers collected from the questionnaire.

Also, the quantitative nature of this study limited the participant's answers for further explanation. The data collected from this study is not generalizable and it is limited to those who participated in this study, representing only the period during which the questionnaire was applied.

The hypothesis of the dissertation

This dissertation seeks to verify whether integrating ADR assisted by AI in online shopping customer service has an impact on the levels of satisfaction or dissatisfaction in consumers.

Additionally, attitudes and willingness of online shopping customers to interact with ADR assisted by AI in online shopping customer service to resolve disputes were investigated.

The hypothesis also suggests that traditional customer service undermines resolution of customer complaints, customer satisfaction, minimising customer dissatisfaction, increasing customer loyalty, increasing product/service quality, improving the time of response and meeting the expectations of customers.

As such, this research will keep the hypothesis above in mind when investigating how ADR assisted by AI to resolve conflict of online shopping affects the levels of satisfaction or dissatisfaction of consumers.

CHAPTER III. LITERATURE REVIEW

The Theory of Planned Behaviour was used as a speculative frame of reference for this study. The Diffusion of Innovation Theory formed the conceptual schema, helping with the analysis and understanding of the findings of the research.

The literature review elaborated on the participation of consumers in online shopping, uses and advantages of AI in online shopping, ADR online and online shopping consumers characteristics.

Theoretical framework

The Theory of Planned Behaviour (TPB) has explained and predicted behaviour a wide range of behaviours successfully (Sheppard et al. 1988).[13]

The TPB is about predicting behaviour developed from beliefs (Ajzen, 2011).[14] The theory focuses on the intention to perform certain behaviour, by interpreting interactions of three determinant factors as the precursor to behaviour (Ajzen, 1991).[15]

Attitude is the overall evaluation a person makes about performing the behaviour; Subjective Norms are the perceived expectations others give about the specific behaviour; and Perceived Behavioural Control defined as a person's perception of how easy or difficult it would be to carry out a behaviour (Ajzen 1991)[16] that could be explained as the control a person believes to own to facilitate or inhibit the performance of a behaviour.

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[13] Sheppard, B. H., Hartwick, J., & Warshaw, P. (1988). *The theory of reasoned action: A metaanalysis of past research with recommendations for modifications and future research.* Journal of Consumer Research, 15(3), 325-343.

[14] Ajzen, I. (2011). *The theory of planned behavior: Reactions and reflections.* Psychology & Health, 26(9), 1113-1127. doi: 10.1080/08870446.2011.613995

[15] Ajzen, I. (1991). *The theory of planned behavior. Organizational Behavior and Human Decision Processes.* 50(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

[16] *Id.*

Ajzen (1991) highlights that behavioural intentions are motivational factors that capture how hard people are willing to try to perform a behaviour. TPB suggests that behavioural intention is the most influential predictor of behaviour. Sheppard et al. (1988) proof an average correlation of .53 between intentions and behaviour in a meta-analysis of 87 studies.

Following TPB, a positive relationship is expected for the focal behaviour and their respective intentions. The choice of consumers to act on their intentions and engage in interactions with ADR assisted by AI in online shopping customer service for dispute resolution is a function of attitude, PBC and subjective norms (Ajzen, 1991).

Conceptual framework

The Diffusion of Innovation Theory explains the process individuals go through before adopting an innovation or behaviour change (Rogers, 2003).[17]

The individual gains initial knowledge concerning the innovation (first stage: knowledge), is exposed to the existence of the innovation and gain an understanding of how it works (Rogers, 2003). A representation of the process is shown in Figure 1.

When the individual forms favourable or unfavourable attitudes towards the innovation persuasion (second stage) occur (Rogers, 2003). The individual then decides (third stage: decision) to participate in activities that lead to accept or reject the innovation (Rogers, 2003). To implement (fourth stage) and put the innovation into practice. Then the individual confirms (fifth stage: confirmation) the decision seeking support from others concerning the decision made (Rogers, 2003).

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[17] Rogers, Everet M. (2003) *Diffusion of innovations.* Fifth Ed., London, The free press. Pp. 163-206.

During the process, other decision-making units in a social system, such as a professional organization or business may become involved and alter the decision made for the individual if the feedback is conflicting (Rogers, 2003).
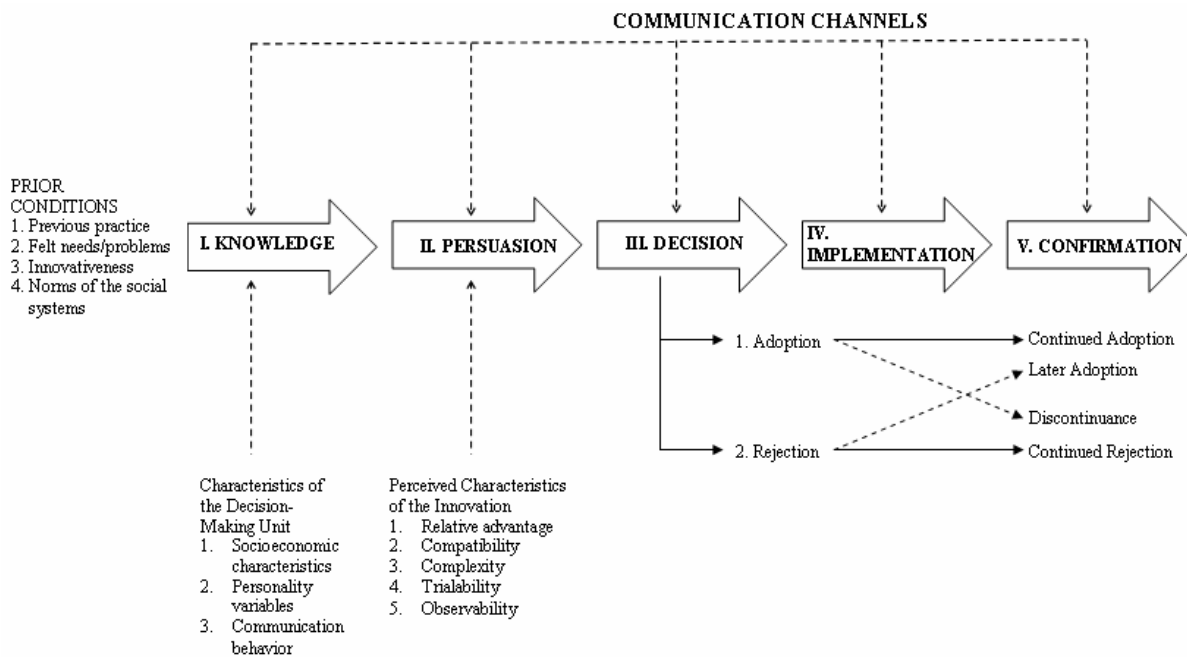
Graphic 1. A Model of Five Stages in the Innovation-Decision Process (Source: *Diffusion of Innovations.* Fifth Edition by Everett M. Rogers. Copyright (c) 2003 by The Free Press. Reprinted with permission of the Free Press: A Division of Simon & Schuster.)

Relevant literature

Alternative Dispute Resolution

Article 6 of the European Convention on Human Rights, implemented in Irish legislation in 2003[18], states that everyone should have effective access to the courts, however, this does not imply that parties involved in a dispute cannot choose to resolve it in an alternative way when they both agree and some form of legal control is provided.

The Constitution of Ireland recognises the realisation of the fundamental rights by ensuring the access of an effective resolution of disputes whether through litigation or alternative dispute resolution (Law Reform Commission, 2010).[19]

Alternative Dispute Resolution (ADR) comprises all mechanisms for resolving legal disputes. The main processes of ADR in Ireland are described in the next paragraphs.

Mediation

In mediation, the parties involved in a dispute agree to bring an impartial third party to assist them in reaching a mutually acceptable settlement. The process is voluntary and non-binding and only becomes binding if and when a settlement is reached. The mediation is attended by a 'decision-maker' for each party and often by their legal advisers, relevant experts, and insurers (if any) (Hussey, 2018).[20]

The Mediation Act 2017 provides a statutory framework to promote the resolution of disputes through mediation as a viable, effective and efficient alternative to court proceedings, thereby

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[18] The European Convention on Human Rights in Ireland Act 2003. (2010). *Know your rights.*Irish Council for Civil Liberties. Available at: https://www.iccl.ie/wp-content/uploads/2017/11/ICCL_KYR_EURO_LR_2010.pdf https://www.iccl.ie/wp-content/uploads/2017/11/ICCL_KYR_EURO_LR_2010.pdf pp. 3, 13 [Accessed: August 05th, 2019]

[19] Law Reform Commission (2010), *Alternative Dispute Resolution: Mediation and Conciliation. Report.*

[20] Hussey, A. (2018). ADR Guide 2018. Law Society of Ireland. Pp. 15-19.

reducing legal costs, speeding up the resolution of disputes and reducing the disadvantages of court proceedings (Mediation Act, 2017).[21]

Arbitration

In Arbitration, the parties choose a neutral third party (the arbitrator) to submit their dispute for determination. After the arbitrator considers the evidence from both parties, they render a decision or arbitral award. A party cannot unilaterally withdraw from the process once the dispute is submitted to arbitration.

Conflicts between businesses are usually resolved in arbitration as they obtain a quick decision and resolution at a much lower cost than through court proceedings. Also, an arbitration hearing is normally not open to the public, whereas court proceedings are normally open to the public and news media.

Parties can select an arbitrator who has experience in the specific issues in dispute. The rules governing the arbitration can be as informal or as complex as the parties agree. The arbitration hearing can be held at a time and place that the parties agree upon.[22]

The arbitrator's decision is final, legally binding and not appealable, except in very limited instances. Arbitration in Ireland is governed by the Arbitration Act 2010. International Arbitration is regulated in Treaties, like the New York Convention. This Convention deals with issues of the recognition and enforcement of foreign arbitral awards.

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[21] *"The Act reinforces existing provisions recognising mediation in the Irish High and Commercial Courts and in the Rules of the Superior Courts. It places on a statutory footing the obligation to consider mediation and requires litigants to confirm to the Courts that they have considered mediation."* Mediation Act (2017). Available at: https://www.algoodbody.com/insights-publications/mediation-increased-obligations-from-1-january-2018
[22] Hussey, A. (2018). ADR Guide 2018. Law Society of Ireland. Pp. 15-19.

Conciliation

The process of conciliation is similar to mediation. Yet, the essential difference is that if the conciliator is unable to facilitate a settlement between the parties, he/she must then issue a recommendation that will be binding upon the parties unless it is rejected by either of them (Hussey, 2018).[23]

Most arrangements in conciliation are silent, leaving the conciliator the option of recommending, a solution that he/she thinks is most likely to resolve the dispute or, following the result he/she thinks an arbitrator would likely impose. However, public works contracts require the conciliator to make the recommendation on the basis of the parties' strict authorization under the contract (Hussey, 2018).

Facilitated Negotiation (Assisted Negotiation)

In this process, the parties to a dispute negotiate in an effort to resolve the dispute with the assistance of a facilitator, who would have no role in advising or determining the content of the matters discussed or the outcome, but can advise during the process (Hussey, 2018).

Negotiation Process

Fisher and Ury (1999)[24] describe negotiation as a basic means of getting what you want from others through a back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed; Reynolds (2016)[25]

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[23] *Id.*

[24] Fisher, R., Ury, W.(1999). *Getting to Yes: Negotiating an agreement without giving in.* 1st Edition. London, UK: Random House Business Books.

[25] Reynolds, N. (2016). *We Have a Deal : How to Negotiate with Intelligence, Flexibility, and Power.* London: Icon Books Ltd.

explains it as discussing differences between two or more parties in order to try to reach an agreement.

According to Lax and Sebenius (1986 cited Benoliel, 2014) negotiation is characterized by interdependence between parties, whether they are individuals, groups, organizations, or nations and occurs when the parties experience conflict and interact strategically to further their interests.

Benoliel (2014) quotes Mnookin et al. (2000) state that negotiation is a voluntary process that people participate in because they believe that a joint effort will yield better results than unilateral effort. The authors add that negotiation yields value and it depends on the needs and interests of the negotiators, the value could be in the form of resources such as money, goods or services, priorities, expectations, amount of risk, time, or satisfaction beyond what the person could achieve without negotiating.

Reynolds (2016), Benoliel (2014), Purdy and Balakrishnan (2000), and Fisher and Ury (1999) recognised negotiation as a fundamental part of what it is to be human. As part of this, Benoliel (2014) outlines that during a negotiation the parties use a variety of behaviours to frame the boundaries of the negotiation taking different approaches.

In his research, Benoliel (2014) comes across numerous negotiation researchers that have identified contrasting approaches, however, while these frameworks have different origins and assumptions, each describes negotiation as consisting of two fundamentally different processes: discovering all the value that can be exchanged and, dividing the value among the parties (Benoliel, 2014).

Meanwhile, Fisher and Ury (1999) proposed that a method of negotiation can properly be judged by three criteria: whether the style ultimately produces a wise agreement; whether it is efficient at arriving at an agreement; and whether it improves, or at least maintains, the relationship between the negotiating parties.

Online Dispute Resolution and AI

A study done by Van den Heuvel (2000) discovered the use of Online Dispute Resolution in online shopping for cross-border disputes. The author mentioned four types of ODR systems: online settlement, using an expert system to automatically settle financial claims; online arbitration, using a website to resolve disputes assisted by qualified arbitrators; online resolution of consumer complaints, using e-mail to handle consumer complaints; online mediation, using a website to resolve disputes with the assistance of qualified mediators.[26]

Artificial Intelligent negotiation support systems

A study by Lodder and Zeleznikow (2012)[27] researched the subject of Decision Support Systems designed to supplement human knowledge management skills with computer-based means for managing knowledge. The systems accept, store, use receive and present knowledge pertinent to the decisions being made.[28]

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[26] Van den Heuvel, E. (2000), *Online dispute resolution as a solution to cross-border e-disputes: an introduction to ODR.* Master thesis Utrecht University.

[27] Lodder, A. R. and Zeleznikow, J. (2012). Artificial intelligence and Online Dispute Resolution. Wahab, M. S. A., Katsh, E. and Rainey, D. (2012). *Online Dispute Resolution: A Treatise on Technology and Dispute Resolution.* Journal of High Technology Law Suffolk University. Law School. The Netherlands: Eleven International Publishing, pp. 61-82.

[28] Zeleznikow, J. (2002). Risk, *Negotiation and Argumentation – A Decision Support System Based Approach*, Law, Probability and Risk, 1 pp. 37-48.

More tools that have been used to develop intelligent negotiation support systems include: Rule-based reasoning that represents the knowledge of a specific legal domain as a collection of rules; Case-based reasoning uses previous experiences to analyse or solve a new problem and adapts past solutions to meet the requirements; Machine learning uses an artificial intelligence system attempting to learn new knowledge automatically; Neural networks consisted of many self-adjusting processing elements cooperating in a densely interconnected network (Lodder and Zeleznikow, 2012).

Template-based systems

Template-based systems were designed to implement decision support assuming the disputants take on a passive role if the parties failed to incorporate any strategy into their negotiation. Primarily these computer programs track past preferences and inform disputants about progress towards a conflict. [29]

Decision Making Unit System (DEUS)[30] is a template-based system that calculates the level of agreement and disagreement between the litigants' goals at any given time. The disputants reach a negotiated settlement when the difference between the goals is reduced to nil.[31]

InterNeg Negotiation Support for Intercultural/Intra-cultural Research (INSPIRE)[32] enabled disputants to negotiate through the Internet, making extensive use of email and web browser

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[29] Bellucci, E. and Zeleznikow, J. (2006). *Developing Negotiation Decision Support Systems that Support Mediators: ACase Study of the Family_Winner System.* Journal of Artificial Intelligence and Law, 13(2), pp. 233-271.

[30] Filipiak, J. (1999). *'F-Space: A method for functional network specification.'* The University of mining and metallurgy, Cracow, Poland. pp. 157. Parodi, Roberto (1992). *Towards a new world in computer communication.* Eleventh international Conference on Computer Communication, IOS Press, Genova, Italy.

[31] Lodder, A. R. and Zeleznikow, J. (2012). Artificial intelligence and Online Dispute Resolution. Wahab, M. S. A., Katsh, E. and Rainey, D. (2012). *Online Dispute Resolution: A Treatise on Technology and Dispute Resolution.* Journal of High Technology Law Suffolk University. Law School. The Netherlands: Eleven International Publishing, pp. 61-82.

facilities. The system displayed previous and present offers and used utility functions to evaluate proposals determined to be Pareto-optimal.[33]

Game Theory for Intelligent Negotiation Support

Game theory provides formal and normative approaches to model bargaining. Two computer systems used for negotiation support are Adjusted Winner[34] and Smartsettle.[35] Both use game theoretic techniques to provide advice about what they claim are fair solutions. These algorithms are fair in the sense that each disputant's desire is equally met. However, they do not meet concerns about justice.

Adjusted Winner divides N divisible goods between two parties as fairly as possible.[36] Brams and Taylor claim[37] that the Adjusted Winner algorithm is envy-free[38], equitable[39], and efficient[40].

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[32] Kersten, G.E. and S.J. Noronha, (1999). *'WWW-based negotiation support: Design, implementation and use.'* Decision Support Syst., 25: 135-154. Hanxiao Shi , (2010). *A Negotiation Supporting System Based on Characteristic of Negotiators.* Information Technology Journal, 9: 312-318.

[33] Pareto-optimality refers to a situation where at least one party is better off, without making other parties worse off.

[34] Brams, S.J. and Taylor, A.D. (1996). *Fair Division, from Cake Cutting to Dispute Resolution.* Cambridge, Cambridge University Press. Adjusted Winner principles have now been developed by Fair Outcomes, Inc. (see <www.appellex.com/>, last accessed June 2nd, 2019) which provides partiesinvolved in disputes or negotiations with access to systems that is claimed allow fair and equitable outcomes to be achieved with remarkable efficiency. Each of these systems is grounded in mathematical theories of fair division and of games.

[35] See <www.smartsettle.com/>, last accessed June 2nd, 2019, where examples of industrial relations, international conflicts and insurance disputes are given.

[36] See <www.nyu.edu/projects/adjustedwinner>, last accessed June 2nd, 2019 for examples and to use the Adjusted Winner software.

[37] Brams and Taylor (1996).

[38] Neither party would want to trade their allocation for their opponent's allocation since both would receive fewer points by accepting their opponent's allocation.

[39] Since both parties receive the same number of points.

[40] The formal proof in Brams and Taylor (1996) show that there can be no better allocation for both players. It should be noted that the initial allocation is efficient, since each player receives all the goods he or she most values, and the equitability adjustment step does not affect efficiency.

Thiessen and MacMahon claim that negotiation support packages can assist parties to overcome the challenges of conventional negotiation through a range of analytical tools to clarify interests, identify trade-offs[41], recognise party satisfaction and generate optimal solutions.[42]

Smartsettle can help parties identify feasible alternatives. If such alternatives do not exist, the program can help parties develop counter proposals.[43]

Bellucci and Zeleznikow (2006) have developed a number of systems that use game theoretic techniques to provide interest based advice about Australian Family Law disputes, such as Family_Winner, that takes a common pool of items and distributes them between two parties based on the value of associated ratings.[44] The basic premise of the system is that it allocates items based on whoever values them more. However, the Family_Winnersystem ignore the issues of justice. [45]

The AssetDivider System

Bellucci developed AssetDivider, a system which combines issues of fairness and integrative bargaining. AssetDivider incorporates the basis of Family_Winner's allocation and trade off strategy to decide upon the allocation of assets based on interests and an item's monetary value.

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[41] Trade-off is where one party lowers its value on some negotiation decision variables and simultaneously demands more on others (Faratin et al., 2002).

[42] Thiessen, E.M. and MacMahon, J.P. (2000). *Beyond Win-Win in Cyberspace*. Ohio State Journal on Dispute Resolution, 15, p. 643.

[43] *Id*.

[44] Bellucci, E. and Zeleznikow, J. (2006). *Developing Negotiation Decision Support Systems that Support Mediators: A Case Study of the Family_Winner System.* Journal of Artificial Intelligence and Law, 13(2), pp. 233-271.

[45] *Id.*

For example, in a family property dispute, one party may have a high emotional attachment to a record collection which has a minimal financial value.[46]

Negotiation Decision Support Systems (NDSS) supports negotiation by modelling the properties of a template, NSS, as well as applying functions to interpret the goals, wants and needs of the parties to provide advice on how disputes can be settled.[47]

Mnookin and Kornhauser introduced the bargaining in the shadow of the trial concept. By examining the case of divorce law, they contended that the legal rights of each party could be understood as bargaining chips that can affect settlement outcomes. So, by developing BATNAs for specific disputes and understanding the bargaining that takes place in the shadow of the law, they can construct useful tools on which negotiation discussions can commence.[48]

Intelligent Negotiation Support Systems

Negotiation support systems are capable of improving their performance, in terms of efficiency and solution quality, by employing machine learning techniques. Lift Dispatching System (LDS) assisted legal experts in settling product liability cases.[49] LDS's knowledge consisted of legislation, case law and informal principles and strategies used by lawyers and claims adjusters in settling cases.

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[46] Bellucci, E. (2008). *AssetDivider: A New Mediation Tool in Australian Family Law*, in HUCOM: Proceedings of the First International Working Conference on Human Factors and Computational Models in Negotiation, Delft, Delft University of Technology, pp. 11-18.

[47] Bellucci, E. and Zeleznikow, J. (2006). *Developing Negotiation Decision Support Systems that Support Mediators: ACase Study of the Family_Winner System.* Journal of Artificial Intelligence and Law, 13(2), pp. 233-271.

[48] Mnookin, R. and Kornhauser, L. (1979). *Bargaining in the Shadow of the Law: The Case of Divorce.* Yale Law Journal, 88, pp. 950-997.

[49] Waterman, D.A. , Paul, J. and Peterson, M. (1986). *Expert Systems for Legal Decision Making.* Expert Systems 3, (4), pp. 212-226.

NEGOPLAN is a rule-based system written in PROLOG. It addresses a complex, two-party negotiation problem. NEGOPLAN has been used to advise upon industrial disputes in the Canadian paper industry.[50]

PERSUADER integrated case-based reasoning and game theory to provide decision support with regard to US labour disputes.[51]

Split-Up provides advice on property distribution following divorce.[52] The aim of the approach is to identify relevant factors in the distribution of property under Australian family law.

The BEST-project supports users by retrieving relevant case law on liability. In this way, parties are given the opportunity to form a judgment about whether they could hold another party liable for certain damages or if they could be held liable themselves.[53]

Vreeswijk and Lodder developed a prototype application for online arbitration.[54] The INSPIRE system has been specifically developed to study negotiation processes and negotiators' behaviour.[55] This system allows for a large scale systematic study of cultural differences in negotiation. INSPIRE views negotiation as a process occurring in a particular context.

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[50] Matwin, S. et al., (1989). *NEGOPLAN: An Expert System Shell for Negotiation Support*. IEEE Expert, 4(4), pp. 50-62.

[51] Sycara, K. (1993). *Machine Learning for Intelligent Support of Conflict Resolution*. Decision Support Systems, 10, pp. 121-136.

[52] Stranieri, A. et al., (1999). *A Hybrid-Neural Approach to the Automation of Legal Reasoning in the Discretionary Domain of Family Law in Australia.* Artificial Intelligence and Law, 7(2-3), pp. 153-183.

[53] Wildeboer, G.R. et al., (2007). *Explaining the Relevance of Court Decisions to Laymen.* in A.R. Lodder and L. Mommers (eds.), Proceedings of JURIX. Amsterdam: IOS Press, pp. 129-138.

[54] Vreeswijk, G.A.W. and Lodder, A.R. (2005). *GearBi: Towards an Online Arbitration Environment Based on the Design Principles Simplicity, Awareness, Orientation, and Timeliness.* Artificial Intelligence and Law. Volume 13, Issue 2, pp. 297-321.

[55] Kersten, G.E. and Noronha, S.J. (1999). *Negotiation via the World Wide Web: A Cross-cultural Study of Decision Making.* Group Decision and Negotiation, 8, pp. 251-279.

Artificial Intelligence disrupting law

Big law firms are using AI as a way of automating tasks traditionally undertaken by junior lawyers. Many believe AI will allow lawyers to focus on complex, higher-value work. Example of AI that will give solicitors the freedom to focus on complex, higher-value work is the Pinsent Masons' TermFrame system developed by Orlando Conetta, the firm's head of R&D, used to extract, review and analyse key contract risks, and provide actionable risk reports, by emulating the decision-making process of a human (Halliwelland Francis, 2016).[56]

The system shows lawyers different types of work while connecting them to relevant templates, documents, and precedents at the right moment (Croft, 2016).[57]

Some AI applications were created to sift through countries regulatory registers to check client names for banks and process thousands of names overnight, an example of this system is Linklaters' Verifi program (Carman, 2019).[58]

AI systems are saving a huge number of hours that traditionally were needed to finalise a task. The time to draft a document will fall from three hours to three minutes with MarginMatrix, a system that codifies the law in various jurisdictions and automates the drafting of certain documents (Croft, 2016).

Law firm Cooley used AI in a litigation dispute in which the technology identified relevant word concepts and clusters of words in 29 million documents. The lawyers only received small data

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[56] Halliwell, D. and Francis, C. (2016). *International law firm Pinsent Masons has announced the roll out of an AI-powered commercial contracts solution to support clients responding to challenges posed by Brexit.*Pinsent Masons.
[57] Croft, Jane (2016) *Artificial intelligence disrupting the business of law.* Financial Times.
[58] Carman, Dominic (2019). *Top 20 Legal IT Innovations 2017: A&O and Deloitte's MarginMatrix - a mini law firm in your computer.* Law.com.

where the program "machine-learnt" through predictive coding according to how it was classified (Croft, 2016).

Legal contracts use ThoughtRiver's software assisted by AI to scan and interpret information from all written contracts used in commercial risk assessments and present it in a central online dashboard that enables clients to assess risk easily (Croft, 2016).

Kim, a virtual assistant designed to help legal teams make quicker and better decisions was launched by the firm Riverview Law in London. Kim's features include being able to suggest the best order in which to renegotiate a series of corporate contracts (Rogers, 2016).[59]

Artificial Intelligence and the development of automated negotiations and resolution of conflicts Faratin et al. (2002)[60] documented the development of automated negotiations as a form of interaction in systems composed of multiple agents that decide for themselves what actions they should perform, at what time, under what terms and conditions, and can have conflicting preferences over the state of the world.

According to authors (Faratin et al., 2002), given the fact that such agents have no direct control over one another and there are often interdependencies between their actions, conflicts need to be resolved by the process of making proposals and/or trading offers, with the aim of generating an offer that may be of greater benefit to the negotiation opponent. This, in turn, should make the agreement more likely and increase the overall joint gains between the two agents [61]

[59] Rogers, Matthew (2016). *Riverview Law's 'Kim' to unleash virtual assistants on legal sector.* Solicitors Journal.
[60] Faratin, P., Sierra, C., and Jennings, N.R. (2002). *Using similarity criteria to make issue trade-offs in automated negotiations, Elsevier Science, Artificial Intelligence.*
[61] Faratin, P., Sierra, C., and Jennings, N.R. (2002). *Using similarity criteria to make issue trade-offs in automated negotiations, Elsevier Science, Artificial Intelligence.*

The work of Faratin et al. (2002) show interest in conflicting preferences models in which the parties argue for positions and aim to persuade their opponents of the value of particular actions. Specifically, the research explores a solution for when AI is confronted with a misrepresentation of preferences from one party in a negotiation in order to maximise their own utility.[62]

The authors make the implicit assumption that social agreements to complex problems are achieved through an iterative and indirect fashion similar to real-world bargaining where ill-informed players interact and communicate to reach a social choice (Faratin et al., 2002).

In order to design a negotiation system for the types of real-world problems in business process management, telecommunications network management, and e-commerce, Faratin et al. (2002) created a protocol and agent assumptions. These assumptions are similar to the proposed by McCarthy (1990) as the parties in the negotiation have only limited information about their opponent.[63]

When the agents come to an agreement or when one of them withdraws from the negotiation, the protocol terminates. Yet, it is not possible to predict an optimal negotiation strategy at the time of design. Thus, Faratin et al. (2002) explain that the protocol they developed works as a memory by using the information to gain sequentially in interactions to heuristically form a prediction of the future based on the history of the interaction.

Faratin et al. (2002) affirm that decision making in an intelligent negotiating agent can be supported by any number of self-learning processes that assist it in searching for potential deals.

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[62] *Id.*

[63] McCarthy, John (1990). *Review: Roger Penrose, The emperor's new mind, American Mathematical Society.* Bulletin (New Series) of the American Mathematical Society, Vol. 23, No. 2, pp. 606-616. Available at: https://projecteuclid.org/download/pdf_1/euclid.bams/1183555924. [Accessed: Nov. 27th, 2018]

In the decision model presented the reasoning process of an agent at each stage of the negotiation is characterised as self-decision over the execution of either a concessionary or a trade-off mechanism or both.[64]

The agents in the model respond to concessions over prevailing environmental context factors such as the time remaining until the deadline, the number of resources consumed in the negotiation, and the behaviour of the negotiation opponent (Faratin et al., 2002).

Given this, the goal of Faratin et al. (2002) is to demonstrate the value of incorporating self-learning in the trade-off decision mechanism for a given set of conditions to take advantage of the opportunities for increasing the social welfare of the deal through trading off between decision variables.

Chatbot Lawyer

Chatbots are one class of intelligent, conversational software agents activated by natural language input (in the form of text, voice, or both). In response, they provide conversational output, and can sometimes also execute tasks.[65]

A recent successful chatbot is DoNotPay, an artificial-intelligence lawyer chatbot that successfully contested 160,000 parking tickets across London and New York for free in 2016.[66]

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[64] Faratin, P., Sierra, C., and Jennings, N.R. (2002). *Using similarity criteria to make issue trade-offs in automated negotiations, Elsevier Science, Artificial Intelligence.*

[65] Radziwill, N., Benton, M. (2017). *Evaluating Quality of Chatbots and intelligent conversational agents.* arXiv. Available at: https://pdfs.semanticscholar.org/6db8/2d07eedd9eb05b2996876486bfb2a141585a.pdf [Accessed: July 11th, 2019]

[66] Gibbs, S. (2016). *Chatbot lawyer overturns 160,000 parking tickets in London and New York.* The Guardian [online] Available at: https://www.theguardian.com/technology/2016/jun/28/chatbot-ai-lawyer-donotpay-parking-tickets-london-new-york [Accessed: August 7th, 2019]

E-commerce and the role of AI

Today, Artificial Intelligence comprises of several techno-scientific branches (Corea, 2018)[67], yet still satisfy the classic definition provided by John McCarthy, Marvin Minsky, Nathaniel Rochester, and Claude Shannon in 1955:

"For the present purpose, the artificial intelligence problem is taken to be that of making a machine behave in ways that would be called intelligent if a human were so behaving." (McCarthy et al. 2006)[68]

Floridi (2019) points out that the classic definition enables one to conceptualise AI as a growing resource of interactive, autonomous, and often self-learning agency that can deal with tasks that would otherwise require human intelligence and intervention to be performed successfully.[69]

According to The European Commission (2018), Artificial intelligence endows systems with the capability to analyse their environment and make decisions with some degree of autonomy to achieve goals. Machine learning denotes the ability of a software/computer to learn from its environment or from a very large set of representative data, enabling systems to adapt their behaviour to changing circumstances or to perform tasks for which they have not been explicitly programmed.[70]

In a profit-driven global world, sales are happening regardless of the time of the day. Businesses need to be available to customers at all hours of the day. Artificial Intelligence in online

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[67] Corea, F. (2018). *AI knowledge map: how to classify AI technologies, a sketch of a new AI technology landscape.* Medium - artificial intelligence.

[68] McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (2006). *A proposal for the Dartmouth summer research project on artificial intelligence. August 31, 1955.* AI Magazine, 27(4), pp. 12.

[69] Floridi, L. (2019). *What the near future of Artificial Intelligence could be.* Philos. Technol. Vol. 32: 1. https://doi.org/10.1007/s13347-019-00345-y

[70] The European Commission (2018). *Artificial Intelligence, Approach to artificial intelligence and robotics.*

shopping helps to achieve this objective, enabling companies to gather, as well as investigate data in real-time, thus facilitating greater efficiency and competence in business providing consumers with a personalised experience on of knowledge about their preferences (Sharma, 2016; Kakkar and Monga, 2017).[71]

Capgemini Research Institute survey (2018) supports this idea by stating that 55 percent of consumers that participated in their study prefer to have interactions enabled by a mix of Artificial intelligence and humans.[72]

Despite the urgency for making AI more human, the U.S. state of California became the first state to try to reduce the power of bots by requiring that they reveal their "artificial identity" when they are used to sell a product from the 1st of July this year […] California's bot-disclosure law is a way to ensure the bots used online are clear, conspicuous, and reasonably designed.[73]

Chatbots

Some of the uses of AI in e-commerce are chatbots that have turned into intelligent beings which understand all issues consumers have to deal with, offering 24 hours a day, 7 days a week assistance. Also, many websites used this AI form to assist customers in their buying process. The communications can be via speech, text or a combination of both (Zamora, 2017).

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[71] Sharma, R. (2016). *Role of Artificial Intelligence in e-commerce.* VTNetzwelt German-rooted co.
Kakkar, S. and Monga, Vishal (2017). *A study on Artificial Intelligence in e-commerce, International Journal of Advances in Engineering & Scientific Research.* Volume 4,(Issue 4, Jun-2017), p 62-. ISSN: 2349 –3607 [Online], ISSN: 2349 –4824.
[72] Capgemini Research Institute (2018), *The secret to winning customer's hearts with Artificial Intelligence adds human intelligence.* Capgemini Research Institute, AI in CX Consumer Survey.
[73] Cohen, N. (2019).*Will California's new bot law strengthen democracy?.* The New Yorker [online] Available at: https://www.newyorker.com/tech/annals-of-technology/will-californias-new-bot-law-strengthen-democracy
[Accessed: July, 10th, 2019]

Perception of Human-like Behaviour

Zamora (2017) researches a conversational chatbot that is able to provide an experience that many menu-based products lack. Human-like behaviours, gestures, and appearances have been found to elicit social mannerisms from users that typically exist between humans. Based on her analysis, Zamora (2017) affirms that a chatbot with human-like characteristics may combat the initial distrust that users can have towards computer-based systems.

Also, Zamora (2017) reviews past literature to discover the importance of chatbots displaying human-like behaviours rather than computer-based behaviours for relationship building as there are many variables that may shape the expectations that a person has with regard to chatbots.

For example, Zamora (2017) found that age and behaviour trends influence the types of responses and interactions one has with conversational agents. The author also found users will even apply stereotypes when the conversational agents express human traits like gender indicators through voice.

However, research from the IEEE Computational Intelligence Magazine (2014 cited Gartner, 2017)[74] identified technological challenges in language, context and reasoning as some technologies struggle to process languages the way humans do. Also, the context, as natural language needs to be processed in the right context. The right context can only be developed if the technology focuses on the language structure, not just on the words in the text.

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[74] Gartner (2017). *The Road to Enterprise AI, Predicts 2017: Artificial Intelligence.* RAGE frameworks. Available at: https://www.gartner.com/imagesrv/media-products/pdf/rage_frameworks/rage-frameworks-1-34JHQ0K.pdf [Accessed: Dec. 4th, 2018]

Acknowledging these findings places importance on designing and evaluating users' diverse perspectives when interacting with AI in e-commerce customer service to negotiate and solve disputes.

Customer Relationship Management

Customer Relationship Management (CRM) is another form of AI used in e-commerce to secure consumers engagement searching through data to predict which customers will make a buying decision. AI efforts pinpoint buying trends so that consumers actions are directed in the right way. Although CRM sales predictions are made with enhanced accuracy, it is still necessary for the sales team to concentrate on building long-lasting associations with customers (Gartner, 2017). [75]

E-service failures and customer satisfaction

Electronic Customer Relationship Management (CRM) key components include maximizing customer satisfaction/minimising customer dissatisfaction, increasing customer loyalty; and increasing product/service quality; and resolving customer complaints.

A study done by Cho et al. (2003) explored the major cause of customer complaints in the online shopping and in-store environments; different types of service failures, the impact of service failure on the customer's propensity to complain.[76]

Identifying the causes of online complaints

The primary causes of online customer complaints were identified by a previous study that analyses pre and post-purchase online customer complaining behaviour such as failure to meet

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[75] *Id.*

[76] Cho, Yooncheong; Im, Il; Hiltz, Roxanne; Fjermestad, Jerry. (2002). *An analysis of online customer complaints: Implications for Web Complaint Management.* Rutgers, The State University of New Jersey. New Jersey Institute of Technology. Pp. 6-10.

price expectations, lack of convenience (ease-of-use), slow delivery, lack of access to information, slow responses to inquiries, and poor product variety.[77]

Cho et al. (2001) study also identified the most important triggers of online customer complaint behaviour by analysing the disparity between online customer expectations and actual performance. The results show that online customers have strong expectations concerning:

1) The availability of reliable product information during the information phase.

2) Security during the agreement phase, and 3) reliable after-sales support during the settlement phase.

Also, the factors that need to be improved to maximize customer satisfaction in the online shopping environment were analysed by another study that identified issues such as security and privacy; technology ability; customer service; shipping costs; lack of information; and follow-up ads (i.e., spam) as the major barriers to improve customer satisfaction.[78]

The Internet of Things

Gartner (2015) mentions another form of AI that is having an impact on almost everything in lives of humans as a form of making everyday tasks smoother and that businesses can take advantage of this to maximise sales. The internet of things (IoT) can be used to sync any device, for example, program the washing machine, appliances and lights in a house, and even the car.

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[77] Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R. (2001), *An Analysis of Pre- and Post-Purchase Online Customer Complaining Behavior.* Proceedings of Conference on Customer Satisfaction, Dissatisfaction & Complaining Behavior, Wyoming: Jackson Hole.
[78] *Id.*

AI in business keeps track and organises vital data that is used to help in the entire customer journey process to offer a superb outcome for unique customer experience. Specifically, the use of AI in customer service helps to emphasis on what is of crucial importance: Satisfaction of the customers and responding to their needs, regardless of the time it arises (Gartner, 2015).

According to Gartner (2015), a hybrid customer service environment can be used in online shopping by balancing interactions between man and machine where the best of AI options are leveraged while at the same time human knowledge is used in preserving the customer context.

As noticed by Zamora (2017) chatbots and machine learning techniques are apt to engagements as they answer the regular customer questions, but they are not good when it comes to specific customer questions. A lot of routine tasks are automated but they still need customer service agents to converge their energies on offering value-added personal services to the customers.

AI reasoning in complex and changing events

Yang et al. (2018) focus on a different major goal of artificial intelligence that is to build systems that powerfully and flexibly reason about the sensory environment. The research outlines that vision provides an extremely rich and highly applicable domain for exercising the ability to build systems that form logical inferences on complex stimuli. One avenue for studying visual reasoning has been Visual Question Answering (VQA) datasets where a model learns to correctly answer challenging natural language questions about static images.[79]

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[79] Yang, G., R., Ganichev, I., Wang, X., Shlens, J., and Sussillo, D. (2018). '*A database and architecture for visual reasoning with a working memory.*' Springer Nature Switzerland AG. Ferrari, V., Hebert, M., Sminchisescu, C., and Weiss, Y. (2018). *Computer Vision – ECCV 2018: 15th European conference, Munich, Germany, September 8-14, 201, Proceedings Part 10*. Springer Nature Switzerland. pp. 729-745.

However, such datasets avoid the complications of time and memory, both of which are integral factors in the design of intelligent agents and the analysis and summarization of videos. In this work, Yang et al (2018) address the second limitation concerning time and memory in visual reasoning. A reasoning agent must remember relevant pieces of its visual history, ignore irrelevant detail, update and manipulate a memory based on new information, and exploit this memory at later times to make decisions.[80]

According to Yang et al. (2018) the aim is to create an artificial dataset that has many of the complexities found in temporally varying data, yet also to avoid much of the visual complexity and technical difficulty of working with video. In particular, the research takes inspiration from decades of research in cognitive psychology and modern systems neuroscience fields which have a long history of dissecting visual reasoning into core components based on spatial and logical reasoning, memory compositionality, and semantic understanding.[81]

Importance of creating a product based on user emotions

Research done by Liu et al. (2018) described the importance of building user empathy to ensure that products are designed to satisfy user needs and experiences. The research has shown that user involvement in the entire innovation process has been a key to success in many firms.[82] The users' feedback has helped to discover key user needs and to understand how they accomplish critical journeys with products.

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[80] Yang, G., R., Ganichev, I., Wang, X., Shlens, J., and Sussillo, D. (2018). '*A database and architecture for visual reasoning with a working memory.*' Springer Nature Switzerland AG. Ferrari, V., Hebert, M., Sminchisescu, C., and Weiss, Y. (2018). *Computer Vision – ECCV 2018: 15th European conference, Munich, Germany, September 8-14, 201, Proceedings Part 10*. Springer Nature Switzerland. pp. 732.

[81] *Id.*

[82] Liu, A., Schwanda, V. S., Singh, K. (2018). *Building Empathy: Scaling User Research for Organizational Impact.* Google, Inc. Montreal, QC, Canada.

In order to allow product teams to better understand their users, several programs have been created around how teams can integrate user emotions and values into their product development process. The aim of Liu et al. (2018) research is to increase user awareness with developers and acknowledge the fact that they aren't the users but also, to put them face to face with their users.[83]

Evidence ADR assisted by AI could lead to good results

In distortions and methods for counteracting them, ADR assisted by AI could be recommended, as these are moments of intense sensitivity. Hoffman and Wolman (2013) experience as a mediator has shown that in high-stakes mediations, such as the potential loss of child custody or the dissolution of a family business, heightened anxiety and fear usually create a climate of hyper-attention and increased emotional reactivity. This state of heightened awareness can disrupt communication (for example, even an eye-roll by one of the parties at a sensitive moment can threaten the entire process).[84]

Conclusion

A preliminary literature review shows that past studies are focused on understanding and modelling Artificial Intelligence Alternative Dispute Resolution. The studies focused on understanding human intelligence and program machines to self-learn, imitating a human memory process, the logic process of data and decision-making according to the context they are interacting.

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[83] *Id.*

[84] Hoffman, D. A. and Wolman, R. N. (2013). *The psychology of mediation.* Cardozo J. of conflict resolution [online], Vol. 14, pp. 763-764.

Also, the studies mainly focus on the measure the level of awareness of interactions with Artificial Intelligence in consumer and the benefits they perceive from these interactions in the process of customer service.

However, there is no evidence of research about the integration of ADR assisted by AI in online shopping customer service to resolve disputes and how these interactions affect the levels of satisfaction of consumers.

This investigation found a valuable gap in the literature reviewed as, despite the amplitude of mechanisms exploring the human reactions to predict behaviour in Alternative Dispute Resolution, there is limited research about the effects on satisfaction in customers from these interactions, particularly in dispute resolution occurring in online shopping customer service between ADR assisted by AI and a human being.

CHAPTER IV. RESEARCH METHODOLOGY AND METHODS

Introduction

The methodology that supports this dissertation is explained in this chapter. This study will investigate whether the integration of Artificial Intelligence with Alternative Dispute Resolution to resolve conflict in online shopping customer service increases or decreases levels of satisfaction or dissatisfaction of customers.

This chapter defines the subjects under study, who they are, the criteria for their inclusion in this study, and how they were sampled. It also describes the research design chosen for the purpose of this study and the reasons for this choice.

The instrument used for data collection is described, with the procedures followed to carry out this study. The methods used to analyse the data are also discussed.

Research Methods

The purpose of this study is to explore attitudes and perceptions of online shoppers from their interactions with Alternative Dispute Resolution assisted by Artificial Intelligence in online customer service for dispute resolution. Additionally, levels of satisfaction in customers are examined to determine if increases or decreases from this integration.

To identify the attributes of the particular correlation between the two phenomena under study this research employs a quantitative descriptive research approach, examining the situation as it exists in its current state (Leedy and Ormrod, 2001).[85]

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[85] Leedy, P. & Ormrod, J. (2001). *"Practical research: Planning and design (7th ed.)"*. Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications. , pp. 102.

"Quantitative researchers seek explanations and predictions that will generate to other persons and places. The intent is to establish, confirm, or validate relationships and to develop generalizations that contribute to theory" (Leedy and Ormrod, 2001).

In order to achieve the main objective of this study, numerical data will be collected on online shopping customers in Dublin city to be quantified and subjected to statistical treatment in order to support or refute the hypothesis of this study (Creswell, 2003).[86] The data will be collected via an online survey and then it will be analysed by the researcher.

The identified objectives of this study are:

1. Describe online consumer's attitudes towards the use of AI in online shopping customer service.

2. Identify online consumers preferred channel to contact customer service online.

3. Identify the preference of online consumers to use an online chat for customer service.

4. Explain the attitude of online consumers towards the use of AI in online shopping customer service to resolve conflict.

5. Identify the attitude of online consumers towards the capabilities of AI compared to humans to provide customer service in online shopping.

6. Explain the perceived benefits of online consumers associated with the use of AI to resolve a dispute in online customer service.

7. Discover how online consumers rate humans and AI in online customer service.

8. Describe the attitude of online consumers towards AI's potential to improve online shopping customer service.

9. Discover the attitude of online consumers towards AI's potential for resolving conflict in online shopping customer service.

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[86] Creswell, J. (2003). *"Research design: Qualitative, quantitative and mixed methods approaches (2nd ed.)."* Thousand Oaks, CA: SAGE Publications

10. Describe the attitude of online consumers towards speeding up the resolution of disputes in online shopping customer service using ADR assisted by AI.

11. Identify the perceived levels of satisfaction of online consumers towards a resolution/consideration from ADR assisted by AI in online shopping customer service for dispute resolution.

12. Explore what online consumers consider important to improve with regard to dispute resolution in online shopping.

13. Describe online customers in terms of their demographics.

14. Test the theory of planned behaviour and describe the relationship between the attitude online consumers, subjective norm and perceived behavioural control in predicting intentions to participate in resolving disputes in online shopping with ADR assisted by AI, and the impact on the level of satisfaction.

15. Determine the amount of unique variances between levels of satisfaction from the integration of AI and ADR on online shopping customer service and demographics

Research design

The study was conducted in Dublin city, conducted an online survey via Google Drive questionnaires. Online survey research is an effective tool for collecting, organizing, and analysing data (Roster et al, 2004; De Vaus, 2013).[87] Online survey has some advantages as it is quantitative in nature, low in cost, has no geographic limitations, participants do not feel under pressure to answer, and it is flexibility to collect data (Wimmer & Dominick, 2014).[88]

For research seeking a specific type of factual, descriptive information, quantitative online survey has been useful (Roster et al, 2004; De Vaus, 2013).

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[87] Roster, C.A., Rogers, R.D., Albaum, G. and Klein, D. (2004), *"A comparison of response characteristics from web and telephone surveys."* International Journal of Market Research, Vol. 46 No. 3, pp. 359-73
De Vaus, D. (2013). *"Surveys in social research."* New York, NY: Routledge.
[88] Wimmer, R. D., & Dominick, J. R. (2014). *"An introduction to mass media research."* Belmont, CA: Wadsworth.

Selection of Participants

Data cited in this study is based on a nationally representative sample of 96 online consumers aged between 18-64 and living in Dublin city. The sample (53,492 participants) follows a country specific quota on age, gender, region, work, and socioeconomic status.[89]

To get results representative of the target population with a level of confidence of 95%, the researcher used Qualtrics sample-size calculator that helped to determine the ideal sample size.[90] Choosing a 95% confidence level, 0.5 standard deviation[91], and a margin of error (confidence interval) of +/- 10% the ideal sample size calculated was 96 participants.

The arithmetic work to obtain the ideal sample size is shown below:

*Necessary Sample Size = (Z-score)² * StdDev*(1-StdDev) / (margin of error)²*

((1.96)² x .5(.5)) / (.10)²

(3.8416 x .25) / .01

.9604 / .01

96.04 96 respondents are needed[92]

Data Sources

This study will consult several sources of data, both primary and secondary. An examination of documentary and bibliographic information will allow a broader study to shape the frame of this

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[89] Central Statistics Office (2016). *"Census 2016 Sapmap Area: County Dublin city."*
[90] The Sample size calculator can be found at: https://www.qualtrics.com/blog/calculating-sample-size/
[91] 0.5 as standard deviation is the most forgiving number and ensures that the sample will be large enough.
[92] Data taken from the standard normal distribution table (Apendix E)

investigation and situate it on the actual context where the survey will be applied to generate new information to support or invalidate the hypothesis.

Primary Data Sources

A survey will be applied to discover the impact on consumers satisfaction or dissatisfaction from the integration of AI with ADR in online customer service to resolve disputes by exploring attitudes and perceptions.

Secondary Data Sources

A literature review will be carried out on this study to understand and allocate the AI role in customer services in the online shopping industry nowadays, and to understand consumer preferences, perceptions, and attitudes towards their interactions with AI.

Instrumentation

The researcher built a questionnaire readjust from past literature (Conner and Sparks, 2005; Pega, 2017)[93] which was applied online (Appendix A). The questionnaire includes a message offering to answer questions and letting participants know the confidentiality and anonymous nature of their answers. Participants respond to a question that certifies they agree to participate in the survey voluntarily: a) "Yes I am over the age of 18 and agree to participate in this study. OR b) "No, I am not over the age of 18 or I do not agree to participate in this study". If participants certify that they are over 18 years old, they are directed to the question about how comfortable they would be interacting with AI in online shopping. Those who do not agree to participate in the study or are younger than 18 are directed to the end of the survey.

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[93] The questionnaires examine the r*ole of anticipated regret and intentions and measure consumer attitudes toward AI and what they think of AI used in customer experience*.

Question one determines how comfortable the consumers would be interacting with AI in online shopping. The rating scale uses a 5-point Likert scale ranging from 1 (Very much uncomfortable) to 5 (Very much comfortable); participants rate their level of agreement with the statement (Ajzen, 2002).

Participants select appropriate reactions describing their attitude toward a statement about AI implemented in online shopping. This question aligns with the attitude component of the Theory of Planned Behaviour by requiring individuals to evaluate their beliefs about interactions with AI in a paradigm such as positive and negative (Ajzen, 1991; Finlay, Trafimow & Moroi, 1999).[94]

Question two identifies the preference of customers to contact customer service in online shopping. The customer' preferences channel of contact include online chat, social media, a live representative on the phone; go into a store/branch, and no preference. Answer options from this section were based on research findings from Pega (2017).[95]

Question three identifies the preference of customers to chat with customer service in online shopping. The customers' preferences when they use online chat include a person, an intelligent robot/virtual assistant/chatbot, or no preference. Answer options from this section were based on research findings from Pega (2017).[96]

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[94] Believes play a central role in the TPB, especially those that are most readily accessible in memory. These are elicited in a fre-response format by asking a representative sample of respondents to list the advantages and disadvantages of performing the behaviour of interest (Ajzen, 1991, p. 188).

[95] Pega (2017). *What consumers really think about AI: A global study.* Pegasystems.

[96] *Id.*

Question four uses previous items from instruments to measure the customers attitudes towards using AI in conflict resolution (Pega, 2017).[97] The customers feeling using AI in conflict resolution include concerned, unsure, confused, neutral, excited and optimistic.

Question five identifies how much the customers agree that AI can provide the same, if not better, levels of customer service than a human can today. Using a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree), participants rate their level of agreement with the statement (Ajzen, 2002).[98]

Question six identifies what customers think would be the biggest benefit of the use of AI in solving disputes in customer service for online shopping. The benefits include lower business cost leading to customer savings, better service and customer satisfaction, a faster response, less chance of human error and increased availability – 24 hours a day, 7 days a week. Answer options from this question were based on research findings from Cho et al. (2001).[99]

Question seven identifies what aspect customers consider to be more important from customer service in online shopping. The aspects considered are human interaction and the advantages of AI resolution listed in questions six. Answer options from this question were based on research findings from Cho et al. (2001). [100]

Question eight uses a 5-point Likert type scale, ranging from 1 (strongly disagree) to 5 (strongly agree) participants indicate how much customers agree AI has the potential to improve customer

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[97] *Id.*

[98] Ajzen, I. (2002) *'Constructing a TPB questionnaire: Conceptual and methodological considerations.'*

[99] Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R. (2001), *An Analysis of Pre- and Post-Purchase Online Customer Complaining Behavior.* Proceedings of Conference on Customer Satisfaction, Dissatisfaction & Complaining Behavior, Wyoming: Jackson Hole.

[100] *Id.*

service by responding to a statement. Answer options in this question were based on research findings from (Ajzen, 2002).

Question nine determines the opinion of customers. Using a yes-or-no question, participants indicate if they think a current AI would be able to resolve conflict for online shopping. Answer options from in this section were based on previous research (Pega, 2017).

Question ten measures how much the customers agree that the integration of ADR and AI would speed up the process of resolving disputes on online shopping, which is a part emphasized in Ajzen's theory of planned behaviour (2002). Using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), participants rate their level of agreement with a statement.

Question eleven measures how satisfied the customers would be with the recommendations/resolution from AI in dispute resolution, based on research by Ajzen (1991).[101] The rating scale of these items ranges from 1 (Very much dissatisfied) to 5 (Very much satisfied). Questions regarding the consumers satisfaction are addressed by requesting participants to choose how satisfied they think they would be on a 5-point Likert scale measurement.

Question twelve is an open-ended question to indicate the participants' opinion on what they think could be done to improve the experience of trying to resolve a dispute with an online shopping transaction.

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[101] Ajzen, I. (1991). *The theory of planned behavior. Organizational Behavior and Human Decision Processes.* 50(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

Question thirteen and fourteen identify the demographic characteristics of the customer including age and gender.

Validity & Reliability

To determine face and content validity, a panel of experts comprising of faculty in law, marketing and technologies with knowledge of Artificial Intelligence and ADR review the items in the instrument.

The pilot test of the study will be applied to the panel; the group consists of 15 participants. All data will be analysed using the Statistical Package for the Social Sciences (SPSS). The consistency of scale items within the survey will be establish with Crombach's alpha for item scores with a range of value, including Likert attitude scales. The group under study here will not be part of the final research.

Data Collection

The Tailored Design Method (TDM) has proven to be effective to obtain high response rates with online surveys. The method includes multiple contacts with participants to achieve a higher response rate. Often, three messages are accepted, including an introduction and two reminders.[102]

Participants for the questionnaire included a group of business and IT students from the College of Computing Technology, a group of the masters in Alternative Dispute Resolution from Independent College Dublin and a group of gamers that play the Augmented Reality game Ingress, were contacted via Facebook messenger, Telegram and WhatsApp. The questionnaire also had a pass–a-long of at least two people and people from some other industries answered it.

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[102] Dillman, D. A. (2011). *"Mail and internet surveys: The tailored design method--2007 update with new internet, visual, and Mixed-Mode Guide."*, Jhon Wiley & Sons., Hoboken, New Jersey.

The first message (Appendix B) gives an introduction to the study, request participation of the subjects to be under study, and shows an explanation of how to access the survey, ensuring the voluntary and confidential nature of the study, privacy rights, includes research contact information, and thank them for their time. A clickable link to the survey is included.

The first message reminder is sent one week after the initial message contact (Appendix C) reminding participations of the study and once again requesting their participation as well as ensuring the voluntary and confidential nature of the study, includes researcher contact information, and thank them for their time. A link to the survey is again included.

The final message reminder is sent 14 days after the initial message contact (Appendix D) informs the participants that data collection is concluding in the near future. The email also requests their participation, ensures the voluntary and confidential nature of the study includes researcher contact information and thanks them for their time. A link to the survey is included.

Data Analysis

To address objective one and eleven, a 5-point Likert adjective scale is used to measure the attitudinal component of the Theory of Planned Behaviour. After recording, the lower numbers are on the negative side to represent a negative attitude. Scoring is reversed for these items: comfortable-uncomfortable, satisfied-dissatisfied. The number -2 and 2 indicates a very strong feeling. Number -1 and 1 indicates a fairly weak feeling, while 0 will indicate participants are undecided or did not understand the adjectives (Richmond, McCroskey & McCroskey, 1989).[103]

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[103] Richmond. V. P., McCroskeY, J. C., & McCroskey, L. L. (1989). *"An investigation of self-perceived communication competence and personality orientations."* Communication Research Reports, 6, 28-36.

Descriptive statistics, including median and standard deviation are reported for objective five and eight. One median is reported for each objective by summating every scale. The objectives use a multinomial regression model to measure the components of the Theory of Planned Behaviour, including attitude, subjective norms, perceived behavioural control and intentions.

Objectives two, three, four, six and seven use correlations to examine associations with demographics and preferences of the participants.

For objective nine, central tendency, variability, and descriptive statistics are calculated, and the open-ended question is evaluated by the researcher by finding common themes in objective twelve, and variability are reported to describe participants' demographics in objectives thirteen and fourteen.

Non-Response Error

To address the non-response error for the portion of the planned sample which cannot be reached (non-deliverables) or refuse to respond (non-respondents), the researcher will send a reminder to respond, make sure the participants are aware that any information is completely confidential and anonymous.

The chosen method that will be used to examine potential error is to estimate and measure error by comparing respondents to non-respondents. Having an estimate of error the researcher can say how accurate the research design was.

Timeline

Timeline	
Task	Date
Thesis proposal submitted to test	June 15th, 2019
Pilot test survey	July 10th, 2019
Send the first message	July 17th, 2009
Send a first reminder message	July 24th, 2019
Send final reminder message	August 1st, 2019
Submit thesis	August 20th, 2019

Summary

This chapter explains all the sections of the survey used for this study. The researcher discusses information about the research design, population and calculation of sample size, and selection of participants. The chapter also reviews the data collection process and the analysis of data relevant for the execution of the study.

CHAPTER V. DATA ANALYSIS AND FINDINGS

The main objective of this study was to explore the impact on the level of satisfaction or dissatisfaction in online shoppers and the integration of Artificial Intelligence and Alternative Dispute Resolution in online customer service to resolve disputes would have.

The theory of planned behaviour framed this study through the assessment of attitude, subjective norms, perceived behavioural control, and intention. Ninety-six respondents participated in the study.

Objective One: Describe online consumer's attitudes towards the use of AI in online shopping customer service.

Graphic 2. How comfortable are you/would you be with a business using Artificial Intelligence to interact with you?

Consumer's attitude towards interactions with AI in online shopping was measured using a 5-point Likert scale with the anchors uncomfortable-comfortable. The numbers 1 and 5 indicated a very strong feeling, while numbers 2 and 4 indicated a weak feeling, while 3 indicated participants were undecided or did not understand the adjectives (McCroskey & Richmond, 1989).

34.4% Comfortable

11.5% Uncomfortable

32.2% Neither

The researcher detected an overall Mode[104] for the item. Respondents reported a correlation with a very much comfortable attitude with a Mode of 5 (n=33, 34.4%) for their attitude toward interactions with Artificial Intelligence; while 11.5% (n=11) of respondents would be very much uncomfortable interacting with AI.

The dichotomous pair indicated that 32.3% (n=31) of respondents showed a neutral attitude towards interacting with AI in online shopping.

13.5% (n=13) had a mode of 4, correlating with a somewhat positive attitude. And 8.3% (n=8) had a mode of 2, correlating with a somewhat negative attitude. This data is displayed in Table 2.

Table 1. How comfortable are you/would you be with a business using Artificial Intelligence to interact with you?

		Frequency	Percent	Valid Percent	Cumulative Percent
How comfortable are you/would you be with a business using Artificial Intelligence to interact with you?	1	11	11.5%	11.5%	11.5%
	2	8	8.3%	8.3%	19.8%
	3	31	32.3%	32.3%	52.1%
	4	13	13.5%	13.5%	65.6%
	5	33	34.4%	34.4%	100.0%
	Total	96	100.0%	100.0%	

Note. Scale: 1 = very much uncomfortable, 2 =somewhat, 3 = neutral, 4 =somewhat, and 5 = very much comfortable.

Objective Two: Identify online consumers preferred channel to contact online customer service.

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[104] The Mode represents the most frequently occurring value in a data set. A data set may have more than one mode. It is one of the measureso of central tendency (Alcula, 2019).

A total of 96 respondents (100%) shared their preferences to contact online shopping customer service. Online chat to contact customer service in online shopping was the preference of 28 of the respondents (29.2%).

Seven of the respondents (7.3%) preferred social media; going into a store/branch is the preference of 16 of the respondents (16.7%); and (n=22, 22.9%) indicated they prefer a live representative on the phone to contact customer service in online shopping.

Those who indicated no preference made up 24% of the respondents (n=23). Table 2 displays the preferences of the respondents to contact online customer service.

Table 2. When you need customer service, what is typically your preferred channel of contact?

		Frequency	Percent	Valid Percent	Cumulative Percent
When you need customer service, what is typically your preferred channel of contact?	Go into a store/branch	16	16.7%	16.7%	16.7%
	Live representative on the phone	22	22.9%	22.9%	39.6%
	No preference, whatever I have access to at the time	23	24.0%	24.0%	63.5%
	Online Chat	28	29.2%	29.2%	92.7%
	Social media	7	7.3%	7.3%	100.0%
	Total	96	100.0%	100.0%	

Objective Three: Identify online consumers preference to chat with, in online chat for customer service.

The researcher explored the responses of 96 participants with respect to their preference to chat in online shopping customer service between a person or an intelligent robot/virtual assistant/chatbot.

Fifty-four (56.3%) of the respondents preferred a person to chat to when they contact customer service in online shopping.

An intelligent robot/virtual assistant/chatbot was the preference of 2.1% (n=2) respondents.

The rest of the respondents showed no preference for any of the options (n=40, 41.7%)

Table 3. When you use online chat for customer service, which do you typically prefer to chat with?

		Frequency	Percent	Valid Percent	Cumulative Percent
When you use online chat for customer service, which do you typically prefer to chat with?	A person	54	56.3%	56.3%	56.3%
	An intelligent robot/virtual assistant/chatbot	2	2.1%	2.1%	58.3%
	No preference	40	41.7%	41.7%	100.0%
	Total	96	100.0%	100.0%	

Table 3A. Which do you typically prefer to chat with?

Cross Tabulation Count

		Gender			
		Female	Male	Other	Total
When you use online chat for customer service, which do you typically prefer to chat with?	A person	33	20	1	54
	An intelligent robot/virtual assistant/chatbot	2	0	0	2
	No preference	26	14	0	40
	Total	61	34	1	96

A cross tabulation shows that 33 females preferred a person to interact with when they use online chat; 2 of them preferred an intelligent robot or a virtual assistant or a chatbot, and 26 of the females in the sample had no preference.

As well, males in the sample showed a major preference for a person to interact with when they chat online with online shopping customer service. Fourteen of them had no preference.

The overall result shows that there was a higher preference to chat with a person when the respondents contact online customer service.

Objective Four: Explain the attitude of online consumers towards the use of AI in online shopping customer service to resolve conflict.

The researcher explored the responses of 96 participants to explain customer' attitudes towards the use of AI resolve conflict in online shopping customer service, a list of six items were given to the respondents.

Forty-seven (37.30%) of the respondents were neutral about the use of AI in online shopping customer service for conflict resolution, while twenty (15.87%) were excited, 14.28% (n=18) were unsure and, 11.11% (n=14) were optimistic.

However, the use of AI in online shopping customer service for conflict resolution confused 11.90% (n=15) of the respondents of the study.

The rest 9.52% (n=12) of the respondents were concerned about the use of AI to resolve conflict in online shopping customer service.

Graphic 3.
Attitude towards use of AI in online shopping customer service to resolve conflict
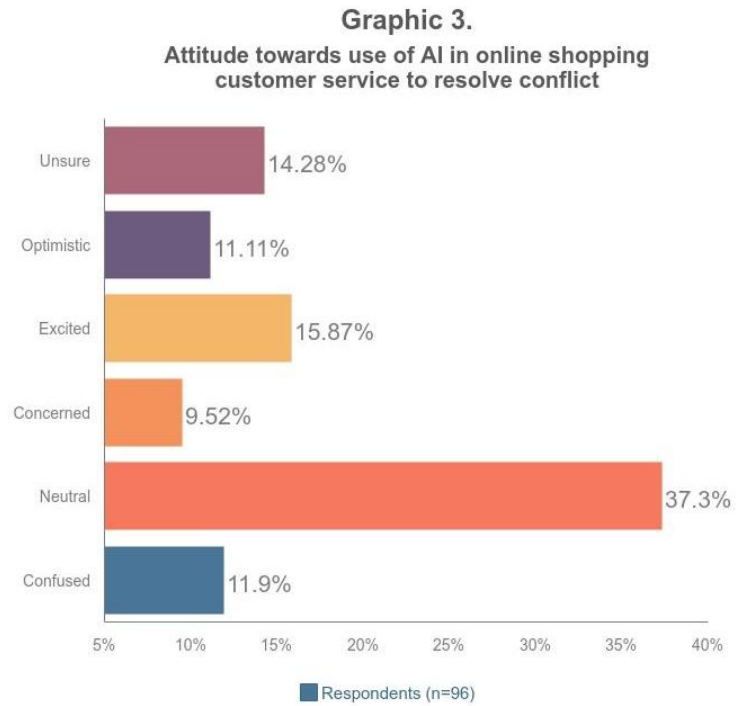
Graphic 3. The graphic illustrates consumer's attitude towards interactions with AI in online shopping customer service to resolve conflict.

Table 4. Attitude towards use of AI in online shopping customer service to resolve conflict.

		Count	Percent
How does the use of AI to resolve conflict on online shopping make you feel? (Select all that apply)	Concerned	4	4.2%
	Concerned; Confused	2	2.1%
	Concerned; Excited	1	1.0%
	Concerned; Neutral	1	1.0%
	Concerned; Unsure	2	2.1%
	Concerned; Unsure; Confused	1	1.0%
	Concerned; Unsure; Neutral	1	1.0%
	Confused	9	9.4%
	Confused; Neutral	1	1.0%
	Excited	6	6.3%
	Excited; Optimistic	7	7.3%
	Neutral	35	36.5%
	Neutral; Excited	5	5.2%
	Neutral; Excited; Optimistic	1	1.0%
	Neutral; Optimistic	2	2.1%
	Optimistic	4	4.2%
	Unsure	11	11.5%
	Unsure; Confused	2	2.1%
	Unsure; Neutral	1	1.0%
	Overall	96	100.0%
	Excluded	0	
	Total	96	

An overall result shows that the majority of the participants in the study had a neutral attitude towards interacting with AI in online shopping customer service to resolve conflict.

Objective Five: Identify online consumers' attitude towards the capabilities of AI compared to humans to provide customer service in online shopping.

To explore respondents' attitudes towards Artificial Intelligence being able to provide the same or better level of customer service than a human can today, the item was measured on a scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The central tendency shows that 29 respondents (30.2%) answered that neither AI can provide better or worse levels of customer service. Fourteen respondents (14.6%) strongly agreed and 25 respondents (26%) agreed that AI can provide the same or better customer service than a human can today.

Eighteen respondents (18.8%) strongly disagreed, while 10 respondents (10.4%) disagreed.

Table 5 illustrates the level of agreement respondents had in AI capabilities to provide the same or better customer service than a human.

30.2% Agree

18.8% Strongly disagree

14.6% Neither

26% Strongly agree

10.4% Disagree
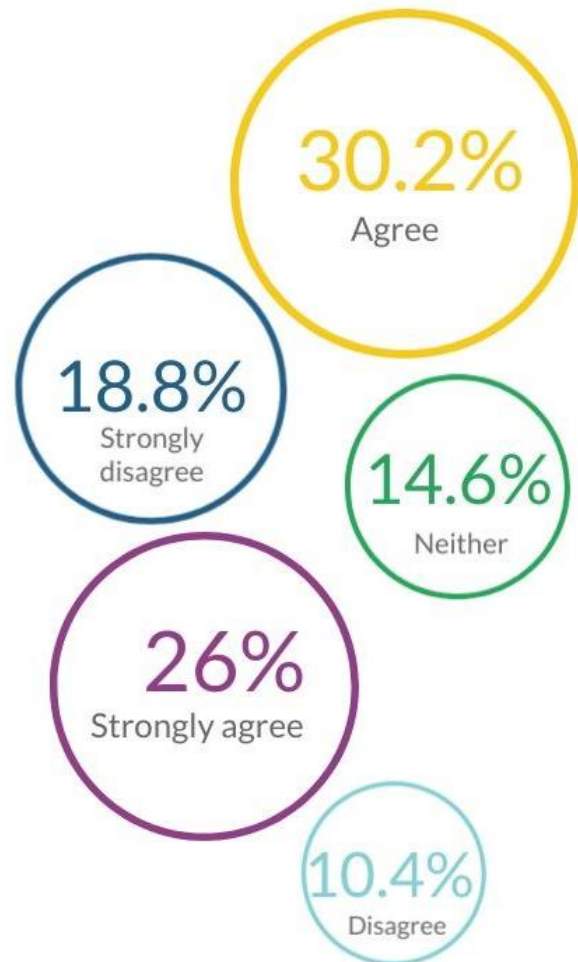
Table 5. Attitude towards AI capability to provide the same or better customer service

		Count	Percent
How much do you agree AI can provide the same, if not better, levels of customer service than a human can today?	1	18	18.8%
	2	10	10.4%
	3	29	30.2%
	4	25	26.0%
	5	14	14.6%
	Overall	96	100.0%
	Total	96	

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither, 4 =agree, and 5 = strongly agree.

The overall results show that the majority of the participants believed that AI could not provide better or same levels of consumer service than a human in online shopping; however, the participants showed a strong tendency to agree on that AI could provide better or the same levels of customer service online than a human can.

Objective Six: Explain online consumers perceived benefits associated with the use of AI to resolve disputes in online customer service
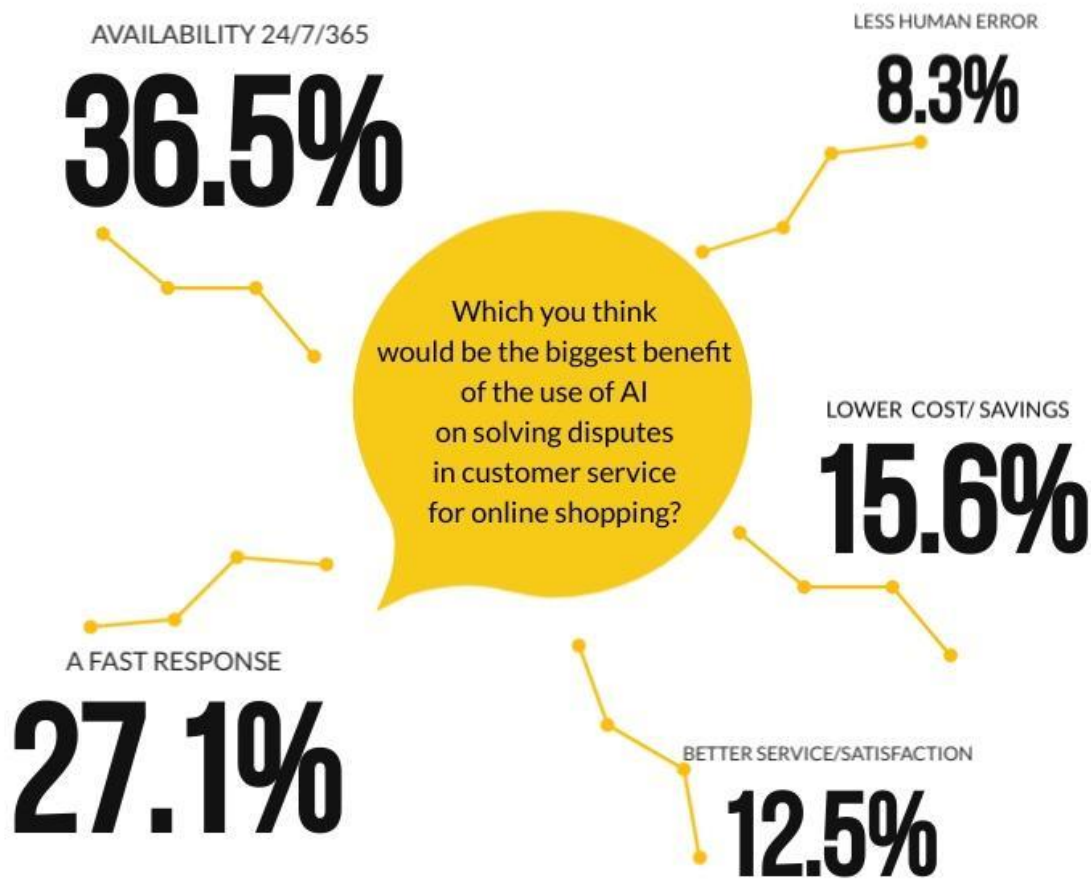
Graphic 5. The graphic illustrates consumers' expectations about the benefits of AI resolving disputes in online shopping customer service.

When customers were asked about the benefits they perceived from the use of AI in online shopping customer service to resolve disputes, the items given were lower business costs leading to customer savings, better service and customer satisfaction, a faster response, less chance of human error, increased availability - 24 hours a day, 7 days a week.

According to 35 respondents (36.5%), increased availability - 24 hours a day, 7 days a week was the main benefit perceived.

Twenty-six (27.1%) participants perceived a faster response as the main benefit.

Lower business cost leading to customer saving had more importance for 15.6% (n=15) of the participants, while better service and customer satisfaction was the major perceived benefit for 12.5% (n=12) and, less chance of human error was the main benefit for 8.3% (n=8).

Table 6 displays customers perceived benefits from the use of AI in online shopping customer service.

Table 6. Perceive benefits from AI resolving disputes in online shopping customer service

		Count	Percent
In the future. Which of the following do you think would be the biggest benefit of the use of AI in solving disputes in customer service for online shopping?	A faster response	26	27.1%
	Better service and customer satisfaction	12	12.5%
	Increased availability - 24 hours a day, 7 days a week	35	36.5%
	Less chance of human error	8	8.3%
	Lower business cost leading to customer savings	15	15.6%
	Overall	96	100.0%
	Excluded	0	
	Total	96	

Increase availability and a faster response got the higher rates from the participants of the sample in relation to what they think would be the major benefit of the use of AI in online shopping customer service.

Objective Seven: Discover how online consumers rate humans and AI in online customer service.

Table 7 illustrates the number of participants that considered human interaction to be of main importance for their interactions with online shopping customer service (n=67, 69.8%), while the advantages of AI, such as lower business costs leading to customer savings, better service and customer satisfaction, a faster response, less chance of human error, increased availability - 24 hours a day, 7 days a week represented less interest for the respondents during their interactions with online shopping customer service (n=29, 30.2%).

Graphic 5. Which of the following do you consider to be more important?
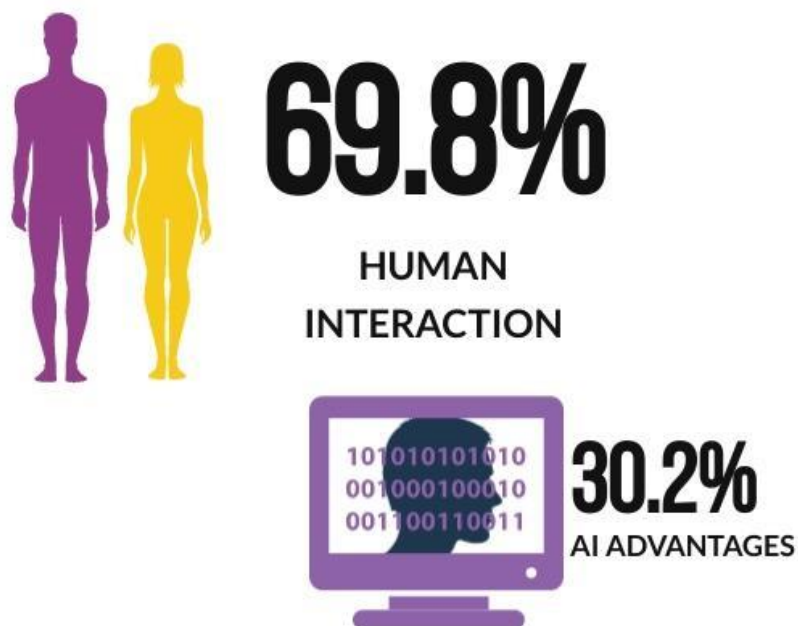
Table 7. Consumers rate between human and AI in customer service

		Count	Percent
Which of the following do you consider to be more important?	Human interaction	67	69.8%
	The advantages of AI resolution listed above	29	30.2%
	Overall	96	100.0%
	Excluded	0	
	Total	96	

Objective Eight: Describe online consumer's attitudes towards AI's potential to improve online shopping customer service.

To identify respondents' attitudes towards Artificial Intelligence capabilities to improve customer service, the item was measured on a scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Eighteen respondents (18.8%) strongly agreed and 31 respondents (32.3%) agreed that AI can improve customer service; while the same number (n=31; 32.3%) of respondents indicated they neither agreed nor

Graphic 6. How much do you agree AI has the potential to improve customer service?

32.3%
Neutral

32.3%
Agree

18.8%
Strongly disagree

11.5%
Disagree

5.2%
Strongly agree
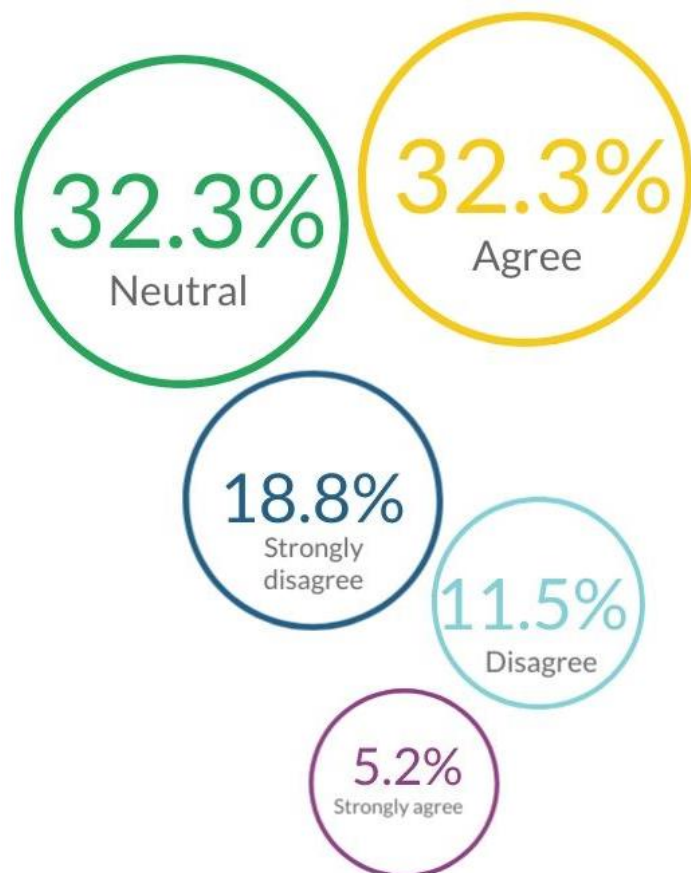
disagreed that AI has the potential to improve customer service.

Five respondents (5.2%) strongly disagreed, while 11 respondents (11.5%) disagreed.

Table 8 illustrates the level of agreement respondents had in AI capabilities to improve customer

service.

Table 8. Attitude towards AI improving customer service

		Count	Percent
How much do you agree AI has the potential to improve customer service?	1	5	5.2%
	2	11	11.5%
	3	31	32.3%
	4	31	32.3%
	5	18	18.8%
	Overall	96	100.0%
	Excluded	0	
	Total	96	

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

Objective Nine: Discover online customers attitude towards AI's potential for resolving conflict

in online shopping customer service

Graphic 7. Do you think a current AI would be able to resolve conflict for online shopping?

60.4% of the respondents answered YES

39.6% of the respondents answered NO
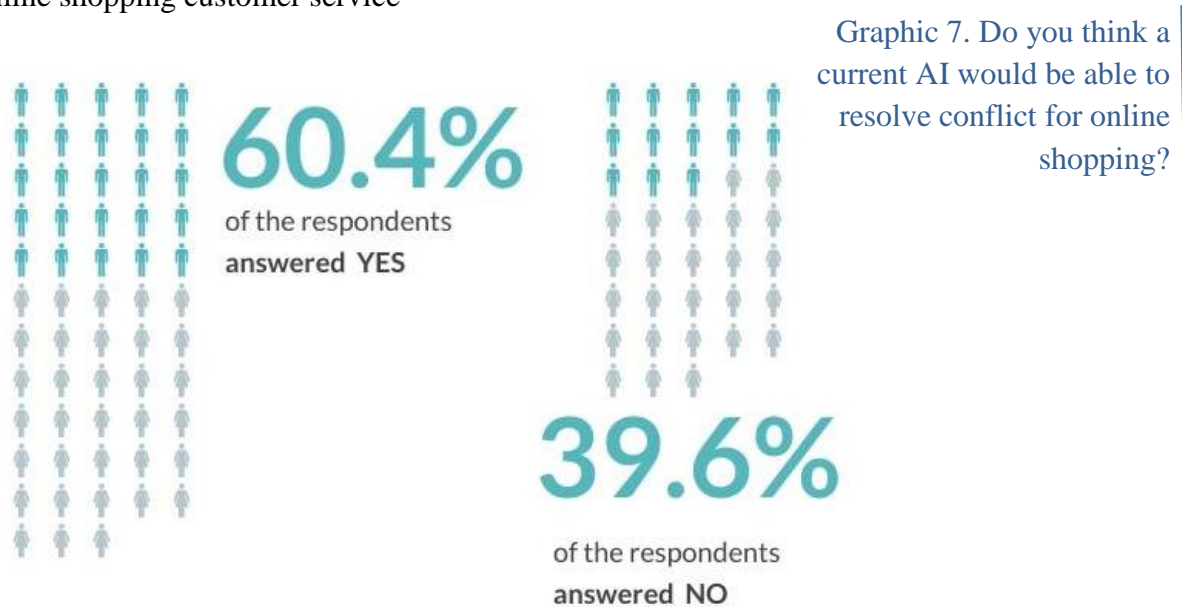
When respondents were asked their considerations about the potential of Artificial Intelligence to

resolve conflict in online shopping customer service, fifty-eight respondents (60.4%) agreed on

that AI has the potential to resolve conflict in online shopping customer service, while the rest of the participants (n=38, 39.6%) showed a negative response to the assumption of AI resolving disputes in online shopping customer service.

Table 9 displays the responses of 96 people with respect to their considerations about AI being able to come with a resolution in online shopping customer service.

Table 9. Consideration about AI resolving conflict for online shopping

		Count	Percent
Do you think a current AI would be able to resolve conflict for online shopping?	No	38	39.6%
	Yes	58	60.4%
	Overall	96	100.0%
	Excluded	0	
	Total	96	

Objective Ten: Describe online consumers' attitudes towards speeding up the resolution of disputes in online shopping customer service using ADR assisted by AI.

The attitude of respondents was measured using a 5-point Likert scale, ranging on a scale from 1 (strongly disagree) to 5 (strongly agree).

Thirty-six respondents (36.5%) agreed and, on that, ADR assisted by AI can improve times of response in online shopping customer service and, 18 respondents (18.8%) strongly agreed. Eleven respondents (11.5%) disagreed, while 7 respondents (7.3%) strongly disagreed. Twenty-

five of the respondents neither agreed nor disagreed that AI can speed up responses in online shopping customer service.

Table 10 illustrates the level of agreement respondents had about ADR assisted by AI improving time of response in online shopping customer service to resolve disputes.

Graphic 8. How much do you agree that the integration of ADR and AI would speed up the process of resolving disputes in online shopping?
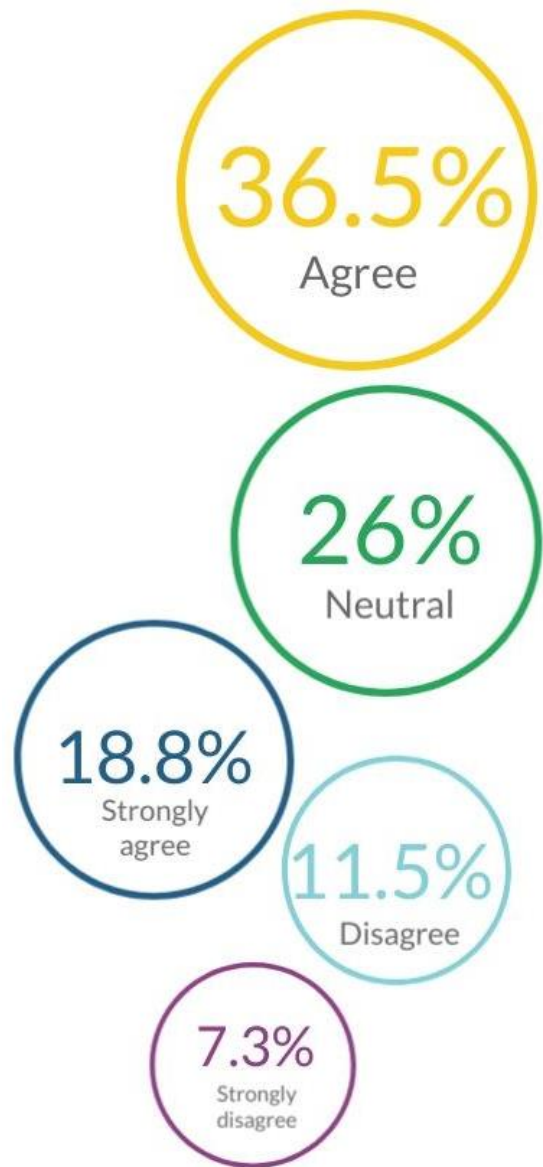
Table 10. Attitude towards the integration of AI and ADR to speed up dispute resolution in online shopping

		Count	Percent
How much do you agree that the integration of ADR and AI would speed up the process of resolving disputes in online shopping?	1	7	7.3%
	2	11	11.5%
	3	25	26.0%
	4	35	36.5%
	5	18	18.8%
	Overall	96	100.0%
	Total	96	

Note. Scale: 1 = strongly disagree, 2 =disagree, 3 = neither agree nor disagree, 4 =agree, and 5 = strongly agree.

Objective eleven: Identify online consumers perceived levels of satisfaction towards a resolution/recommendation from ADR assisted by AI in online shopping customer service for dispute resolution.

To obtain the level of satisfaction customers would experience by integrating ADR assisted by AI in online shopping customer service for dispute resolution was measured using a 5-point Likert scale, ranging on a scale from 1 (very much dissatisfied) to 5 (very much satisfied).

Graphic 9. How satisfied would you be with the resolution/recommendation from ADR assisted by AI in online shopping customer service?
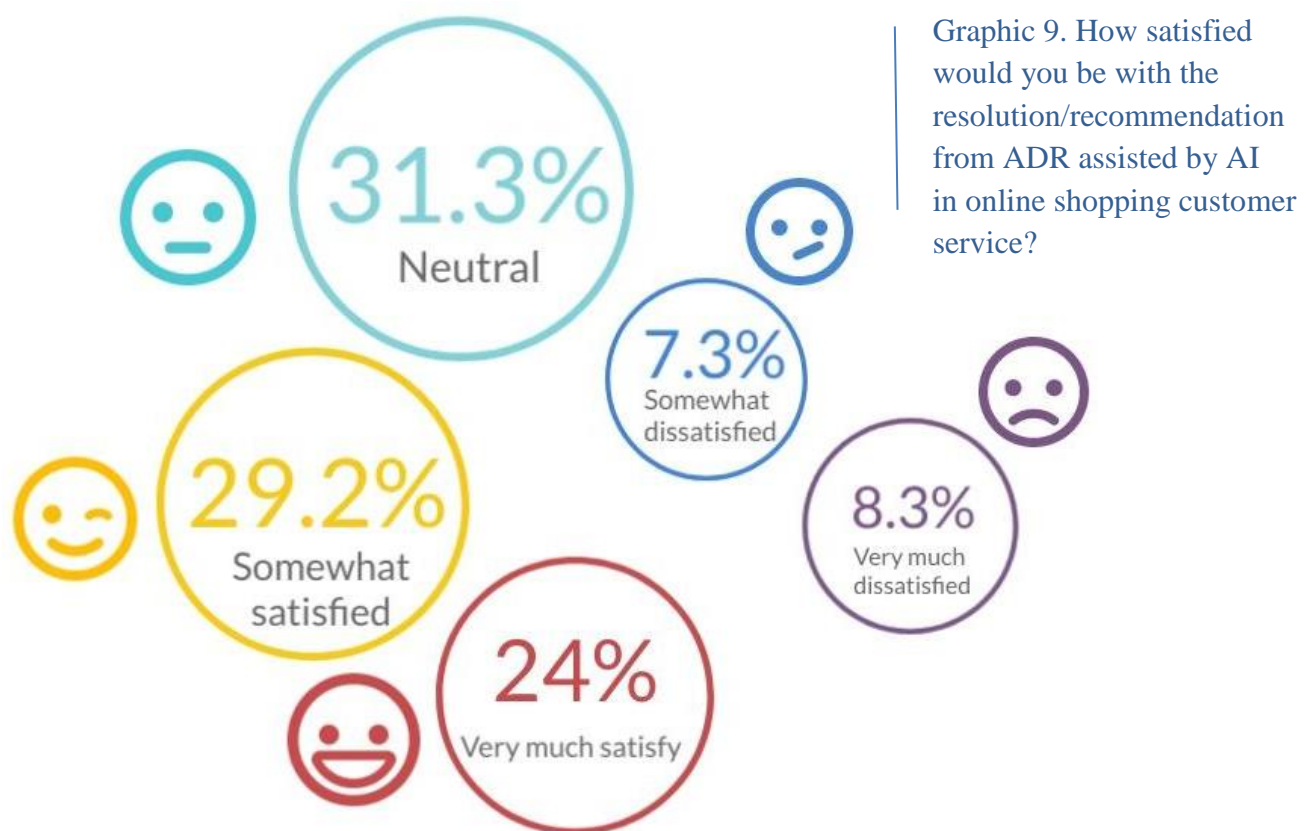
Twenty-three respondents (24%) believed that they would be very much satisfied and 8 respondents (8.3%) would be very much dissatisfied with a resolution/consideration from the integration of ADR assisted by AI in online shopping customer service for dispute resolution. Twenty-eight respondents (29.2%) would be somewhat satisfied, while 7 respondents (7.3%) would be somewhat dissatisfied.

The majority of respondents (n=30, 31.3%) were neutral when asked about their levels of satisfaction from a resolution or/and recommendations made by AI assisting ADR in online customer service.

Table 11 illustrates the level of satisfaction respondents would have from experimenting with ADR assisted by AI to resolve disputes in online shopping customer service.

Table 11. Levels of satisfaction associated with the resolution/consideration from the integration of ADR with AI in online shopping customer service to resolve disputes.

		Count	Percent
How satisfied would you be with the resolution/recommendations from ADR assisted by AI in online shopping customer service?	1	8	8.3%
	2	7	7.3%
	3	30	31.3%
	4	28	29.2%
	5	23	24.0%
	Overall	96	100.0%
	Total	96	

Note. Scale: 1 = very much dissatisfied, 2 =somewhat, 3 = neutral, 4 =somewhat, and 5 = very much satisfied.

Objective Twelve: Explore what online consumers consider important to improve with regard to dispute resolution in online shopping.

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The respondents were asked in an open question for their opinion about what they think could be done to improve the experience when they are trying to solve a dispute in online customer service.

The question was asked with the purpose of making the participants remembered past experiences dealing with online shopping customer service.

Graphic 10.
What could make online customer service better?
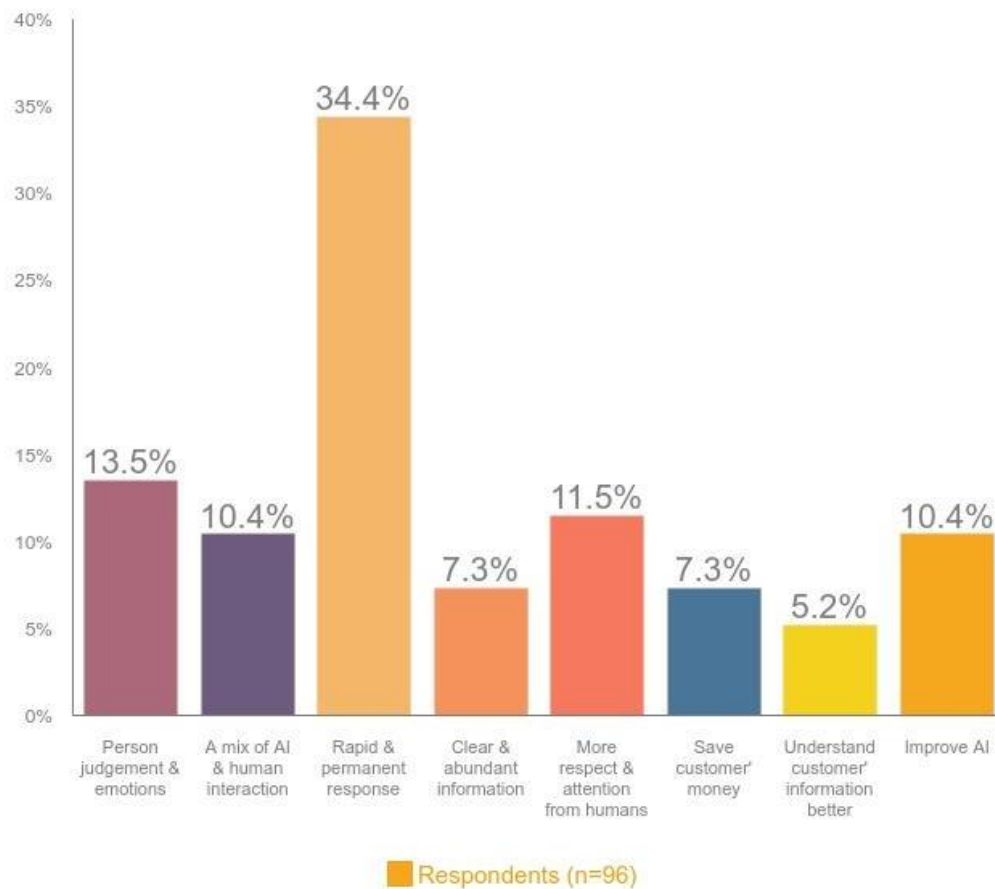
Graphic 10. The graphic illustrates the consumers' opinions of what online shopping customer service needs to improve.

The answers revealed that customers (n=33, 34.37%) expected rapid and permanent responses from online shopping customer service when they are facing a problem. Thirteen (13.54%) of the respondents considered that the judgment and emotions of a person cannot be replaced by Artificial Intelligence. An improvement of AI to give better service was suggested by 10 respondents (10.41%) alleging that the actual technology does not feel natural.

Another 10 respondents (10.41%) proposed that a mix of AI and human interactions would improve online customer service during the process of trying to resolve a dispute.

Eleven (11.45%) respondents considered that the employees working for customer services in online shopping should show more respect to customers when trying to resolve a dispute. For seven respondents (7.291%) clear and generous information about processes and product would improve their experience in online shopping customer service.

Five respondents (5.208%) considered that online businesses should make a better effort to understand the customers' information better and offer them customised solutions to their problems. Another 7 respondents (7.291%) were concerned about compensation from the process of resolving a dispute in online shopping customer service.

Table 12. What could make online customer service better?

		Frequency	Percent	Valid Percent	Cumulative Percent
What could make online customer service better?	Person' judgement and emotions	13	13.5%	13.5%	13.5%
	A mix of AI and human interaction	10	10.4%	10.4%	24.0%
	Rapid and permanent response	33	34.4%	34.4%	58.3%
	Clear and abundant information about processes and products offered	7	7.3%	7.3%	65.6%
	More respect and attention from humans	11	11.5%	11.5%	77.1%
	Save customers money	7	7.3%	7.3%	84.4%
	Understand customers information better	5	5.2%	5.2%	89.6%
	Improve AI	10	10.4%	10.4%	100.0%
	Total	96	100.0%	100.0%	

Objective Thirteen: Describe online customers in terms of their demographics.

The researcher described the demographics of the respondents through two questions concerning age and gender. The majority of respondents were female (n=61, 63.5%) with the largest age group being 25 to 34 years old (n=38, 39.58%).

Thirty-four (35.4%) men participated in the study with the largest age group being 25 to 34 (n=20, 20.83%) and 35 to 44 years old (n=14, 14.58%).
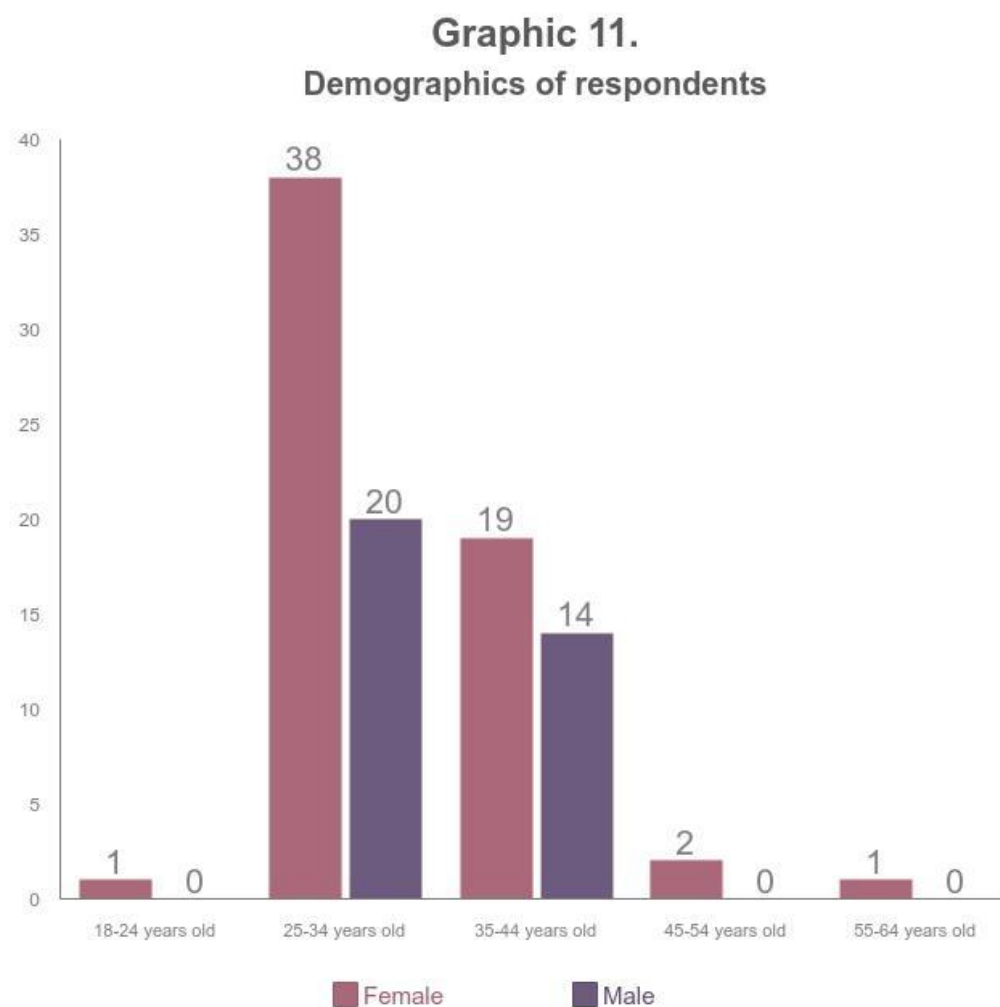
Graphic 11. Illustrates demographics of the participants of the study.

Table 13 illustrates the demographic characteristics of the respondents in this study.

Table 13. Age group * Gender Cross Tabulation

| | | Female | Percent | Gender | | | | |
				Male	Percent	Other	Total	Percent
Age group	18-24 years old	1	1.0416%	0	0	0	1	1.0416%
	25-34 years old	38	39.58%	20	20.83%	0	58	60.41%
	35-44 years old	19	19.79%	14	14.58%	1	34	35.41%
	45-54 years old	2	2.083%	0	0	0	2	2.083%
	55-64 years old	1	1.0416%	0	0	0	1	1.0416%
	Total	61	63.54%	34	35.41%	1	96	100%

Objective Fourteen: Test the Theory of Planned Behaviour and describe the relationship between consumers' attitude, subjective norm and perceived behavioural control in predicting intention to participate in resolving disputes in online shopping with ADR assisted by AI, and the impact on the level of satisfaction.

The constant analysed was the data collected by the evaluation of the level of satisfaction or dissatisfaction from a situation where ADR assisted by AI in online shopping customer service would give them solutions and/or recommendations.

To test the TPB the variable attitude was collected after respondents evaluated how much they agreed that AI could give the same or better levels of customer service than a human.

The subjective norm was what resulted from the customers attitude when they were asked how comfortable they would be interacting with AI in online business as this answer can be influenced by what they believe AI is used in online shopping (An, 2016).[105]

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[105] An, Mimi (2016). *'Artificial intelligence is here – People just don't realize it.'* HubSpot Research.

Perceived behavioural control was measured from the attitudes the participants showed when they were asked how much they agreed with speeding up the resolution of a dispute in online shopping customer service from an integration of ADR assisted by AI to resolve disputes.

Taken as a set, the predictor's attitude towards interaction with AI in online shopping, attitude towards AI could provide better service than a human and attitude towards faster process by integrating ADR assisted by AI in online shopping customer service, account for significant variance in levels of satisfaction.

The overall regression multinomial model was significant and indicated a good fit. $R2=.700$ shows that 70% of the variance in the dependent variable is explained in the model, meaning that our predictors are able to account for a significant amount of variance in the level of satisfaction.

The subjective norm (attitude towards business using Artificial Intelligence to interact) variable significantly predicted the level of satisfaction of respondents Sig. (p=.038). The positive beta value (1.920) revealed that as the influence of subjective norms increased, so did the level of satisfaction from the participation in the integration of ADR and AI in online shopping customer service.

The perceived behavioural control (Attitude towards faster resolution of disputes by integrating ADR assisted by AI in online shopping customer service) Sig. (p=.021) also significantly predicted the levels of satisfaction from the integration of ADR assisted by AI in online shopping customer service. The positive beta value (2.143) revealed that as the influence of perceived behavioural control increased, so did the levels of satisfaction from the participation in the integration of ADR and AI in online shopping customer service.

Attitude (attitude towards AI providing better levels of customer service than a human) also significantly predicted the levels of satisfaction from the integration of ADR assisted by AI in online shopping customer service ($p<.006$). The positive beta value (3.582) revealed that as a positive attitude increased so did the levels of satisfaction from the participation in the integration of ADR and AI in online shopping customer service.

Overall, these variables uniquely explained a significant amount of variance in the constant "very much satisfied". People that are comfortable interacting with AI, believed it can provide the same or better customer service than a human, and agreed on that ADR assisted by AI can speed up the process to resolve a dispute in online shopping customer service would be more likely to be satisfied with a resolution/recommendation from ADR assisted by AI in online shopping customer service.

For the less likely to be satisfied with a resolution/recommendations from ADR assisted by AI in online shopping customer service to resolve disputes, the variables: 1) AI can provide the same or better level of customer service, and 2) AI could speed the process of resolving disputes in online shopping customer service, were not significant ($p=.793$; $p=.580$).

However, how comfortable they feel interacting with AI in online shopping had a significant influence on how dissatisfied they might feel with a resolution/recommendation from ADR assisted by AI ($p=.059$).

This means that the less comfortable they are interacting with AI online, the more dissatisfied they will be with the result from a dispute conducted by ADR assisted by AI in online shopping customer service.

Table 14. Multinomial regression analysis summary for TPB variable predicting satisfaction from the integration of ADR assisted by AI in online customer service

Satisfaction		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
Very much	Intercept	-18.716	3.918	22.818	1	.000			
	comfortable with AI interaction	1.920	.926	4.304	1	.038	6.821	1.112	41.846
	AI can provide better customer service	3.582	1.294	7.658	1	.006	35.934	2.843	454.178
	Speed up the process of resolving disputes online	2.143	.926	5.359	1	.021	8.524	1.389	52.305
Somewhat	Intercept	-14.471	3.642	15.785	1	.000			
	comfortable with AI interaction	1.477	.894	2.733	1	.098	4.381	.760	25.243
	AI can provide better customer service	2.951	1.243	5.640	1	.018	19.124	1.675	218.388
	Speed up the process of resolving disputes	2.195	.872	6.344	1	.012	8.981	1.627	49.563
Neutral	Intercept	-9.352	3.243	8.316	1	.004			
	comfortable with AI interaction	1.810	.868	4.346	1	.037	6.111	1.114	33.506
	AI can provide better customer service	1.933	1.199	2.598	1	.107	6.908	.659	72.451
	Speed up the process of resolving disputes	1.347	.783	2.955	1	.086	3.844	.828	17.847
Somewhat	Intercept	-4.577	2.422	3.571	1	.059			
	comfortable with AI interaction	1.627	.861	3.569	1	.059	5.090	.941	27.540
	AI can provide better customer service	.330	1.256	.069	1	.793	1.391	.119	16.301
	Speed up process	.420	.760	.306	1	.580	1.522	.343	6.750

a. The reference category is: very much dissatisfied.

Objective Fifteen: Determine the amount of unique variances between levels of satisfaction

from the integration of AI and ADR on online shopping customer service and demographics.

The multinomial regression shows that Males compared to Females are more likely to be very much satisfied and neutral rather than very much dissatisfied or somewhat from the integration of ADR assisted by AI in online shopping customer service to resolve disputes.

The analysis of unique variance between levels of satisfaction and gender shows a positive correlation. This means that in this sample, the gender has an influence on the levels of satisfaction on consumer adoption of ADR assisted by AI in online shopping customer service for dispute resolution.

The rate of satisfaction levels recorded by males with odds of 1.043 higher than that of odds of 0.985 recorded by females

Very much satisfied

Male exp (.043) =1.043 odds higher

Female exp (-.015) =.985 odds lower

For a neutral rating, male again showed higher rates with 2.44 times higher than female rating .711 times lower.

Neutral

Male exp (.895) =2.447 odds higher

Female exp (-.341) =0.711 odds lower

Overall, male and female rated Neutral for the level of satisfaction they would experience from getting a recommendation or resolution from ADR assisted by AI in online shopping customer service to resolve disputes.

Table 15. Amount of unique variance between levels of satisfaction from the integrating of ADR assisted by AI in online shopping customer service

Satisfaction		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
Very much satisfied	Intercept	1.056	.475	4.946	1	.026			
	Male	.043	.945	.002	1	.964	1.043	.164	6.645
	Female	-.015	.000	.	1	.	.986	.986	.986
	Other	0b	.	.	0	.	.	.	.
Somewhat	Intercept	1.253	.468	7.157	1	.007			
	Male	.251	.911	.076	1	.783	1.286	.216	7.670
	Female	-.100	.000	.	1	.	.905	.905	.905
	Other	0b	.	.	0	.	.	.	.
Neutral	Intercept	1.322	.479	7.623	1	.006			
	Male	.624	.895	.487	1	.485	1.867	.323	10.782
	Female	-.341	.000	.	1	.	.711	.711	.711
	Other	0b	.	.	0	.	.	.	.
Somewhat	Intercept	17.581	1970.004	.000	1	.993			
	Male	-17.175	1970.004	.000	1	.993	3.474E-8	.000	.c
	Female	-18.274	1970.004	.000	1	.993	1.158E-8	.000	.c
	Other	0b	.	.	0	.	.	.	.

a. The reference category is: very much dissatisfied.
b. This parameter is set to zero because it is redundant.
c. Floating-point overflow occurred while computing this statistic. Its value is therefore set to system missing.

Summary

In this chapter, the positive attitude of respondents towards interacting with AI is explained. The benefits associated with this interaction include lower business costs leading to customer savings, better service and customer satisfaction, a faster response, less chance of human error, increased availability - 24 hours a day, 7 days a week.

The researcher identified barriers faced by respondents to interact with online shopping customer service, also an explanation of what respondents believe would improve the managing of disputes in online customer service was discovered and analysed.

The intention of respondents to participate in an integration of ADR assisted by AI in online shopping customer service was analysed. And a report of respondents demographics was presented, analysing the unique variance between demographics and levels of satisfaction.

A multiple regression analysis emphasized that the perceived behavioural control components of the Theory of Planned Behaviour successfully predicted the intention to interact with ADR assisted by AI in resolving disputes in online shopping customer service with positive levels of satisfaction from this interaction.

CHAPTER VI. DISCUSSION

For this study, the Theory of Planned Behaviour was used as the conjectural frame of reference. Also, the Diffusion of Innovation theory was used as the conceptual scheme to explain and analyse the process of individuals adopting an innovation.

To address each component of Theory of Planned Behaviour the participants were asked about their attitude towards business using Artificial Intelligence to interact (subjective norm), their attitude toward faster resolution of disputes by integrating ADR assisted by AI in online shopping customer service (perceived behavioural control) and their attitude towards AI providing better levels of customer service than a human (attitude), and their levels of satisfaction from the participation in the integration of ADR and AI in online shopping customer service.

Conclusions

Objective One

Objective one stated, 'describe online consumers attitudes towards the use of AI in online shopping customer service.' The respondents held a positive attitude towards interacting with AI in online shopping (n=33, 34.4%). We can consider that they have experienced interactions with AI in the past. Previous research has denoted that people use AI tools without realising.[106]

Assessing the findings with the diffusion of innovation as a conceptual framework, it can be understood that some respondents have already developed specific attitudes towards the stage of

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[106] An, Mimi (2016). *'Artificial intelligence is here – People just don't realize it.'* HubSpot Research. Pp. 3-5.

innovation because they have participated in activities that would lead to accept or reject the innovation (Rogers, 2003).[107] This stage can be critical for influencing the decisions of consumers to participate.

Objective Two

Objective two stated 'Identify online consumers preferred channel to contact online customer service.' Online chat (n=28, 29.2%), no preference (n=23, 24%), and live representative on the phone (n=22, 22.9%) were the preferred channels for customer interaction with online shopping customer service.

Previous research studies have cited live representative on the phone, and online chat as the preferred channel to contact customer service.[108]

Objective Three

Objective three stated 'Identify online consumers preference to chat with, in online chat for customer service.' The respondents showed a preference for a person (n=54, 56.3%). However, a high number of respondents showed no preference (n=40, 41.7%) when they use chat to contact customer service in an online shop.

The fact that almost half of the sample showed no preference on who will be behind the computer when they are looking for assistance, could be a critical stage to convince them of the benefits ADR assisted by AI could bring to their future transactions with online shopping customer service.

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[107] Rogers, Everet, M. (2003) *Diffusion of innovations. Fifth Ed.*, London, The free press. Pp. 163-206.
[108] Pega (2017). *'What consumers really think about AI: A global study'.* Pegasystems. pp. 11.

The findings coincide with previous literature where the majority of the respondents want to chat with a person, not with a machine (Pega, 2017)[109]. The respondents affirmed that they could spot a machine-powered chat as they are not sophisticated enough "to pick up the context, sentiment, or emotion at the moment" (Pega, 2017).

According to the Pega survey (2017) the problem seems to be that most of the chatbot experiences feel like pre-scripted chatbots.

Objective Four

Objective four stated, 'Explain the online consumers attitude towards the use of AI in online shopping customer service to resolve conflict.' Most of the respondents (37.30%) had a neutral attitude towards the use of AI in online shopping customer service.

According to the diffusion of innovation theory, the respondents are in the decision stage as they have interacted with AI in online shopping customer service to resolve disputes; however, they are not convinced AI could resolve their disputes.

Yet, some of the respondents (15.8%) feel excited to use AI in online shopping customer service to resolve conflict, indicating they are in the confirmation stage, where other decision-making units in a social system could drag them to completely accept the benefits that AI would represent when resolving disputes in online shopping customer service.

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[109] *Id*.

These findings can be compared with the results of Webb (2017)[110], where a group of American people was asked how excited they were about the prospect of mankind inventing super intelligence. The group seemed to find the prospect of super intelligence and its benefits exciting. Some participants characterised themselves as excited on some level.

Objective Five

Objective five stated, 'Identify online consumers attitude towards the capabilities of AI compared to humans to provide customer service in online shopping.' Respondents were neutral towards either AI providing better customer service than a human in online shopping. Previous research has indicated that one of the biggest challenges for businesses is a strong preference for human interaction. In this survey the majority of the respondents disagreed that AI can provide the same or better levels of customer service than a human.[111]

The fact that the research was made two years ago could mean that the attitude towards AI in online shopping customer service is slowly moving towards accepting AI capabilities to give the same or better customer service than a human.

Assessing the findings with diffusion of innovation as a conceptual framework, the respondents can be situated in the confirmation stage. As decision-making units in a social system, managers could use the stage as an opportunity to implement strategies that influence customers' acceptance for the innovation (Rogers, 2003).

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[110] Webb, R. (2017), *Superintellgence and public opinion.* NewCo Shift [online]. Available at: https://shift.newco.co/2017/04/24/Superintelligence-and-Public-Opinion/
[111] Pega (2017). *What consumers really think about AI: A global study.* Pegasystems, pp. 10.

Objective Six

Objective six stated, 'Explain online consumers perceived benefits associated with the use of AI to resolve a dispute in online customer service.' Increased availability - 24 hours a day, 7 days a week is the main benefit perceived, according to 35 (36.5%) respondents.

Also, Twenty-six (27.1%) participants perceived a faster response as the main benefit.

Past literature suggested online businesses need to be available at any time for consumers (Capgemini Research Institute, 2018)

Also, Cho et al. (2001) found that one of the primary causes of online customer complaints were slow responses to inquiries, and identified that online customers have strong expectations concerning reliable after-sales support.[112]

Objective Seven

Objective seven stated, 'Discover how online consumers rate humans and AI in online customer service.' Most of the respondents believe that human interaction is more important when they interact with online shopping customer service (n=67, 69.8%). The findings coincide with previous research that has indicated the strong preference for human interactions represents a barrier for online businesses.[113]

Objective Eight

Objective eight stated, 'Describe online consumers attitudes towards AI's potential to improve online shopping customer service.' The largest number of respondents (n=31, 32.3%) agreed that the potential is there for AI to improve customer service experiences today. Yet, the same

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[112] Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R. (2001), *An Analysis of Pre- and Post-Purchase Online Customer Complaining Behavior.* Proceedings of Conference on Customer Satisfaction, Dissatisfaction & Complaining Behavior, Jackson Hole, Wyoming.

[113] Pega (2017). *What consumers really think about AI: A global study.* Pegasystems, pp. 10.

number of respondents (n=31, 32.3%) seemed to be not fully convinced AI adds enough value today, showing a neutral opinion.

Previous literature shows that most respondents do not believe AI delivers the same or better than humans today. However, they believed AI will have the potential to improve customer service in the future (Pega, 2017).

Bearing in mind that the previous research was carried out two years ago, we can conclude that the experiences customers have had are slowly improving, moving customers towards a better opinion about AI in online shopping customer service.

AI is developing at a fast pace, it's reasonable to expect it will interact more naturally soon, especially if they are going to be used in consumer-facing roles such as shop assistants, medical advisors or personal companions (ARM, 2017).[114]

Objective Nine

Objective nine stated, 'Discover online customers attitude towards AI's potential for resolving conflict in online shopping customer service.' More than half of the sample (n=58, 60.4%) respondents agreed on the potential AI has to resolve conflict in online shopping customer service. The rest of the participants (n=38, 39.6%) showed a negative response to the assumption of AI resolving disputes in online shopping customer service.

As the majority of respondents expressed a positive attitude towards AI potential to resolve disputes in online shopping customer service, this could be interpreted as a sign of customers moving towards acceptance of AI in their online interactions, which means they are open to

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[114] ARM (2017). *AI today, AI tomorrow.* Northstar, pp. 10.

suggestions and new solutions that can be opportunities for managers to improve interactions with customers in online shopping.

Objective Ten

Objective ten stated, 'Describe online consumers attitudes towards speeding up the resolution of disputes in online shopping customer service using ADR assisted by AI.' The majority of respondents (36.5.8%) believe that an integration of ADR assisted by AI would speed up the resolution of conflicts in online shopping customer service.

Objective Eleven

Objective eleven stated, 'Identify online consumers perceived levels of satisfaction towards a resolution/consideration from ADR assisted by AI in online shopping customer service for dispute resolution.' Respondents (n=30, 31.3%) agreed they would feel neutrally satisfied from a resolution or recommendations given by ADR assisted by AI in online shopping customer service.

However, 28 participants responded that they would be satisfied and 23 would be very much satisfied by a resolution or recommendation coming from ADR assisted by AI, which could explain the study's positive overall results towards the attitude to adopt the innovations of ADR assisted by AI in online shopping customer service.

Objective Twelve

Objective twelve stated: 'Explore what online consumers consider important to improve with regard to dispute resolution in online shopping.' Rapid and permanent responses from online shopping customer service when they are facing a problem (n=33, 34.37%) was the biggest

expectation from online consumers. Past literature reveals that global world sales are happening regardless of the time of the day, suggesting that business needs to be available to the customers at all hours of the day (Capgemini Research Institute, 2018).

Thirteen of the respondents (13.54%) considered that the judgment and emotions of a person cannot be replaced by Artificial Intelligence. However, Zamora (2017) affirms that a human-like behaviour is possible and so is a fluent interaction between humans and AI.

The improvement of AI to give better service was suggested by 10 respondents (10.41%) alleging that the actual technology does not feel natural. Zamora's research (2017) pointed out chatbots and machine learning techniques are apt to engagements as they answer the regular customer questions, but they are not good when it comes to complicated specific questions. A lot of routine tasks are automated but they still need customer service agents to converge their energies on offering value-added personal services to the customers.

Ten (10.41%) of the respondents believed that a mix of AI and human interactions would improve online customer service during the process of trying to resolve a dispute. These findings coincide with Capgemini Research Institute survey (2018) findings where 55 percent of consumers preferred to have interactions enabled by a mix of Artificial intelligence and humans.[115]

According to Gartner (2015), a hybrid customer service environment can be used in e-commerce by balancing interactions between man and machine where the best of AI options are leveraged while at the same time human knowledge is used in preserving the customer context.

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[115] Capgemini Research Institute (2018). *The secret to winning customer's hearts with Artificial Intelligence adds human intelligence*. Capgemini Research Institute, AI in CX Consumer Survey.

Eleven (11.45%) respondents considered that the employees working for customer service in online shopping could show more respect to customers when trying to resolve a dispute.

For seven respondents (7.291%), clear and generous information about processes and product would improve their experience in online shopping customer service. The results coincide with the findings of Figueiredo (2000) of customer complaints when they failed to find proper information on the products.[116] Also, Degeratu et al. (2001) proposed that in order to minimize customer dissatisfaction in online businesses, the products people cannot touch and smell online (sensory products, e.g., clothing, shoes, etc.) will require more intensive information than non-sensory products.[117]

Five respondents (5.208%) considered that online businesses should make a better effort to understand the customers' information better and offer them customised solutions to their problems. Finally, another 7 respondents (7.291%) are concerned about compensation from the process of resolving a dispute in online shopping customer service.

These findings are consistent with past research that indicates that the primary causes of online customer complaints was the failure to meet price expectations, lack of convenience (ease-of-use), slow delivery, lack of access to information, slow responses to inquiries, and poor product variety.[118] The study also identified that online customers have strong expectations concerning

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[116] Figueiredo, J. M.de, (2000). *Finding Sustainable Profitability in Electronic Commerce.* Sloan Management Review, pp.41-52.

[117] Degeratu, A. M., Rangaswamy, A., and Wu, J., (2001), *Consumer Choice Behavior in Online and Traditional Supermarkets: The Effects of Brand Name, Price, and Other Search Attributes.* eBusiness Research Center Working Paper, PENN State University, http://www.ebrc.psu.edu.

[118] Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R. (2001). *An Analysis of Pre- and Post-Purchase Online Customer Complaining Behavior.* Proceedings of Conference on Customer Satisfaction, Dissatisfaction & Complaining Behavior, Jackson Hole, Wyoming.

the availability of reliable product information during the information phase; security during the agreement phase; and reliable after-sales support during the settlement phase.

Objective Thirteen

Objective thirteen stated 'Describe online customers in terms of their demographics.' The majority of respondents were female (n=61, 63.5%) with the largest age group being 25 to 34 years old (n=38, 39.58%). Thirty-four (35.4%) men participated in the study with the largest age group being 25 to 34 (n=20, 20.83%) and 35 to 44 years old (n=14, 14.58%).

Zamora (2017) found that age and behaviour trends influence the types of responses and interactions one has with conversational agents. The author also found users will even apply stereotypes when the conversational agents express human traits like gender indicators through voice.

Acknowledging these findings places importance on designing and evaluating users diverse perspective when interacting with AI in e-commerce customer service to negotiate and solve disputes.

The age group of the participants under this study shows a generation that is witnessing improving processes and increasing safety and efficiency that comes with adopting AI it is bringing to day to day activities. The day will come when not handing over the steering wheel to a machine will be considered careless, if not irresponsible.

Consumers are accepting AI in their lives the same way they accepted the iPad and smartphones. Also, children are growing up viewing their parents talking to Siri (Apple) or Alexa (Amazon) and how the machines interact with them.

Objective Fourteen

Objective fourteen stated, 'Test the theory of planned behaviour and describe the relationship between online consumers attitude, subjective norm and perceived behavioural control in predicting intentions to participate in resolving disputes in online shopping with ADR assisted by AI, and the impact on the level of satisfaction.' The subjective norm, perceived behavioural control and attitude components of the Theory of Planned Behaviour significantly predicted the intention of respondents to participate in resolving disputes in online shopping with ADR assisted by AI and that the variables impact the level of satisfaction.

Attitude, subjective norms and perceived behavioural control accounted for 70% of the variance in intention to participate in resolving disputes in online shopping with ADR assisted by AI, and the impact on level of satisfaction.

These findings also suggest that other influences contributed to the intention of respondents to participate in resolving disputes in online shopping with ADR assisted by AI, and on their levels of satisfaction.

Also, the attitudinal component of the theory of planned behaviour revealed the positive view of the participants towards ADR assisted by AI in online shopping customer service.

Objective Fifteen

Objective fifteen stated, 'Determine the amount of unique variances between levels of satisfaction from the integration of AI and ADR on online shopping customer service and demographics.' The analysis of unique variance between levels of satisfaction and gender shows

a positive correlation. Males would be more likely to be very much satisfied with their interactions with ADR assisted by AI in online shopping customer service.

A statistical report from Eurostat in 2018 showed that using the internet to shop online is just slightly less frequent among women than among men (66% of female internet users shopped online in 2017, compared with 69% of male).[119]

Taking into consideration that the majority of participants in the sample were women (n=61, 63.5%) we can conclude that gender does influence the levels of satisfaction in online shopping consumers.

Recommendations

Recommendation for Research

Technological culture may have a strong influence on the way consumers adopt innovations compared with the participants of the sample of this study. So, researchers should examine customer interactions with ADR assisted by AI in other regions and compare results to this study.

Insight into the attitudes, subjective norms, perceived behavioural control and demographics of consumers relevant to ADR assisted by AI in online shopping customer service are provided in this study. It is suggested the use of the theory of planned behaviour for future research as the framework to observe the influences of theoretical components on consumer participation in

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[119] Eurostat (2018). *The life of women and men in Europe: A statistical portrait.* Eurostat [online]. pp. 22. Available at: https://ec.europa.eu/eurostat/cache/infographs/womenmen/images/pdf/WomenMenEurope-DigitalPublication-2018_en.pdf?lang=en [Accessed: August 6th, 2019]

innovations such as the implementation of ADR assisted by AI in online shopping customer service.

Also further research should measure the levels of satisfaction experienced when the integration of ADR assisted by AI in online shopping customer service happens to compare the prediction of this study with the actual results at that time.

Future qualitative and quantitative studies should discover and examine other factors influencing the consumers satisfaction such as emotions, fears, resistance to change, etc.

Recommendations for Practice

Findings indicate that online customers need to be educated on the processes of online business, products, and services and how to handle disputes online. The more they understand AI and experience the benefits, the more open they will be to new ways AI can improve customer experience.

Businesses should consider keeping up to date with information related to how they use AI to interact with customers, provide clarity on AI benefits to the customer experience, and implement strategies to improve communication and time to respond to customer queries.

Also, the findings show that ADR assisted by AI could improve the level of satisfaction in customers dealing with disputes in online shopping customer service.

Findings in this study have potential implications for how to market ADR assisted by AI in online shopping customer service. The interest of customers to interact with AI and experiment with innovations displays a need for marketing managers to develop strategies to convince the customer of the benefits innovations could bring into their lives and the improvements in processes online to obtain higher levels of satisfaction.

The literature reviewed in this study has demonstrated that there's technology developed to successfully implement ADR assisted by AI in online customer service. It also proved it could improve ADR online.

In the future, I consider more businesses will be adopting this technology to improve the resolution of disputes online. However, there would be some limitations for the adoption of these tools such as an intellectual struggle over the changes in the way society will see machines with the ability to think on their own, even equipped with empathy and charisma. Also, the considerations that will have to be made over the adoption of artificially intelligent machines replacing people.

REFLECTION

As a marketing researcher and editor, I enjoy the seeking of knowledge, much more if I am studying the topics that most attracted my attention and that I consider would bring a wider experience in the areas I have been working in for almost 20 years.

Alternative Dispute Resolution represents the new knowledge and the opportunity to enter an important area to complement my career, bringing fresh topics into my understanding such as law and coaching or a kind of psychological work. The guidance and help to develop this project was a huge help, all comments and suggestions were considered to improve my research work, and they sometimes gave me the impulse to keep going and learning more about new things, new people and myself.

The mix of topics was thought to improve my knowledge about Alternative Dispute Resolution and the areas where this topic can be applied, such as marketing and surprisingly in Artificial Intelligence. Also, I chose those topics that I knew I was going to enjoy to research and learn about.

I carried out this investigation thinking on the benefits it will bring to my own knowledge and enjoyment. This gave me the opportunity to deeply understand and apply the knowledge I gained in the classroom, out into the real world.

The combination of the topics Alternative Dispute Resolution, Artificial Intelligence, and Marketing made me understand that at the end, all the knowledge we acquire and the way we apply is to create solutions to make life easier, which is why it is so important to study and understand human behaviour.

REFERENCES

A

Ajzen, I. (2011). *The theory of planned behavior: Reactions and reflections.* Psychology & Health, 26(9), 1113-1127. doi: 10.1080/08870446.2011.613995

Ajzen, I. (2001). *Nature and operation of attitudes.* Annual review of psychology. 52(1), 27-58, DOI: 10.1146/annurev.psych.52.1.27

Ajzen, I. (2002). *Constructing a TPB questionnaire: Conceptual and methodological considerations.* Available at:

http://www.uni-bielefeld.de/ikg/zick/ajzen%20contruction%20a%20tpb%20questionnaire.pdf

[Accessed: June 30th, 2019]

Ajzen, I. (1991). *The theory of planned behavior. Organizational Behavior and Human Decision Processes.* 50(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

An, Mimi (2016). *Artificial intelligence is here – People just don't realize it.* HubSpot Research. Available at:

https://cdn2.hubspot.net/hubfs/53/assets/hubspot.com/research/reports/AI%20Is%20Here_HubSpot.pdf [Accessed: July 25th, 2019]

Alcula (2019). *Statistics Calculator: Mode.* Available at:

http://www.alcula.com/calculators/statistics/mode/ [Accessed: July 20th, 2019]

ARM (2017). *AI today, AI tomorrow.* Northstar. Available at: http://pages.arm.com/rs/312-SAX-488/images/arm-ai-survey-report.pdf, pp. 10. [Accessed: June 2nd, 2019]

B

Bellucci, E. (2008). *AssetDivider: A New Mediation Tool in Australian Family Law*, in HUCOM: Proceedings of the First International Working Conference on Human Factors and Computational Models in Negotiation, Delft, Delft University of Technology, pp. 11-18.

Bellucci, E. and Zeleznikow, J. (2006). *Developing Negotiation Decision Support Systems that Support Mediators: A Case Study of the Family_Winner System.* Journal of Artificial Intelligence and Law, 13(2), pp. 233- 271. Available at:

https://www.researchgate.net/publication/37377142_Developing_Negotiation_Decision_Support_Systems_that_Support_Mediators_A_Case_Study_of_the_Family_Winner_System. [Accessed: July 13th, 2019]

Benoliel, M. (2014). *Negotiation Excellence: Successful Deal Making (2nd Edition)*. Vol. 2nd edition, World Scientific, Hackensack, NJ, Available at:

http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=862321&site=eds-live

[Accessed: Nov. 13th, 2018]

Bitner, M. J., Booms, B. H., and Tetreault, M. S. (1990). *The service encounter: diagnosis favorable and unfavorable incidents.* The Journal of Marketing, Vol. 54. No. 1: 71-84.

Brams, S.J. and Taylor, A.D. (1996). *Fair Division, from Cake Cutting to Dispute Resolution.* Cambridge, Cambridge University Press.

Bryman, A. (2008). *Social Research Methods*. New York: Oxford University Press.

Bryman, A. (2012). *Social Research Methods (4th ed.)*. Oxford: Oxford University Press.

C

Capgemini Research Institute (2018). *The secret to winning customer's hearts with Artificial Intelligence adds human intelligence.* Capgemini Research Institute, AI in CX Consumer Survey. Available at: https://www.capgemini.com/gb-en/wp-content/uploads/sites/3/2018/07/AI-in-CX-Report_Digital.pdf [Accessed: Nov. 27th, 2018]

Carman, D. (2019). *Top 20 Legal IT Innovations 2017: A&O and Deloitte's MarginMatrix - a mini law firm in your computer.* Law.com. Available at: https://www.law.com/legal-week/2017/11/09/top-20-legal-it-innovations-2017-ao-and-deloittes-marginmatrix-a-mini-law-firm-in-your-computer/?slreturn=20190631092438 [Accessed: June 31st, 2019]

Cath, C., Wachter, S., Mittelstadt, B., Taddeo M., Floridi, L. (2018). *Artificial Intelligence and the 'Good Society': the US, EU, and UK approach.* Oxford Internet Institute, University of Oxford. The Alan Turing Institute, headquartered at the British Library, United Kingdom. Available at:

https://ora.ox.ac.uk/objects/uuid:12f825d6-d2cc-41c9-b2a8-

7456994a64da/download_file?safe_filename=AI%2Band%2Bthe%2BGood%2BSociety.pdf&fil

e_format=application%2Fpdf&type_of_work=Journal+article [Accesed: August 5th, 2019]

Cohen, N. (2019). *Will California's new bot law strengthen democracy?* The New Yorker [online] Available at: https://www.newyorker.com/tech/annals-of-technology/will-californias-new-bot-law-strengthen-democracy [Accessed: July, 10th, 2019]

Conner, M. and Sparks, P. (2005). *Theory of planned behaviour and health behaviour.* Open University Press. McGraw-Hill Education. Second edn. [online] Available at: http://iums.ac.ir/files/hshe-soh/files/predicting_Health_beh_avior(1).pdf#page=187 [Accessed: June 30, 2019]

Conner, M., Sandberg, T., McMillan, B. and Higgins, A. (2005). *Role of anticipated regret, intentions and intention stability in adolescent smoking initiation.* British Journal of Health Psychology, in press.

Corea, F. (2018). *AI knowledge map: how to classify AI technologies, a sketch of a new AI technology landscape.* Medium - artificial intelligence. Available at:

 https://medium.com/@Francesco_AI/ai-knowledge-map-how-to-classify-ai-technologies-6c073b969020. [Accessed: July 25th 2019]

Cho, Yooncheong; Im, Il; Hiltz, Roxanne. (2003). *The impact of e-services failures and customer complaints on electronic commerce customer relationship management.* Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior; Provo Vol. 16, p. 106-118.

Cho, Yooncheong; Im, Il; Hiltz, Roxanne; Fjermestad, Jerry. (2002). *An analysis of online customer complaints: Implications for Web Complaint Management.* Rutgers, The State University of New Jersey. New Jersey Institute of Technology. Available at:

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.95.4914&rep=rep1&type=pdf

[Accessed: June 10th, 2019]

Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R., (2001) *Causes and Outcomes of Online Customer Complaining Behavior: Implications for Customer Relationship Management (CRM).* Proceedings of the 2001 Americas Conference on Information Systems, Boston.

Cho, Y., Im, I., Ferjemstad, J., and Hiltz, R., (2001). *An Analysis of Pre- and Post-Purchase Online Customer Complaining Behavior. Proceedings of Conference on Customer Satisfaction, Dissatisfaction & Complaining Behavior.* Wyoming: Jackson Hole.

Croft, Jane (2016) *Artificial intelligence disrupting the business of law.* Financial Times [online] Available at: https://www.ft.com/content/5d96dd72-83eb-11e6-8897-2359a58ac7a5 [Accessed: June 31st, 2019]

D

Degeratu, A. M., Rangaswamy, A., and Wu, J., (2001). *Consumer Choice Behavior in Online and Traditional Supermarkets: The Effects of Brand Name, Price, and Other Search Attributes.* eBusiness Research Center Working Paper, PENN State University, PII: S0167-8116 00 00005-7

De Vaus, D. (2013). *Surveys in social research.* New York, NY: Routledge.

Dillman, D. A. (2011). *Mail and internet surveys: The tailored design method-2007 update with new internet, visual, and Mixed-Mode Guide.* Jhon Wiley & Sons., Hoboken, New Jersey

Dummies (2014). *Statistics: 1,001 Practice Problems for Dummies (+ free online practice).* Consumer Dummies. Available at: https://www.dummies.com/education/math/statistics/finding-appropriate-z-values-for-given-confidence-levels/ [Accessed: July 10, 2019]

E

Easterby-Smith, M., Thorpe, R., and Jackson, P. R. (2015). *Management and Business Research.* SAGE Publications Ltd, London, 5th Edition. Available at:

https://books.google.ie/books?hl=es&lr=&id=SfwaCAAAQBAJ&oi=fnd&pg=PP1&dq=Management+Research+(4th+edition),+Easterby-Smith,+Thorpe+and+Jackson+pdf&ots=x1CEy3LrGy&sig=A0lv0Pk3IJGbt1Bv_zQm5ws276k&redir_esc=y#v=onepage&q&f=false [Accessed: Nov. 27th, 2018]

Eid, M. I. (2011). *Determinants of E-Commerce Satisfaction, trust, and loyalty in Saudi Arabia.* Journal of Electronic Commerce Research, Vol. 12, No. 1: 78-93.

Eurostat (2018). *The life of women and men in Europe: A statistical portrait.* Eurostat [online]. pp. 22. Available at:

https://ec.europa.eu/eurostat/cache/infographs/womenmen/images/pdf/WomenMenEurope-DigitalPublication-2018_en.pdf?lang=en [Accessed: August 6th, 2019]

EUR-Lex (2000). *Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular, electronic commerce in the Internal Market ('Directive on electronic commerce').* Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1561194013780&uri=CELEX:32000L0031 [Accessed: June 22nd, 2019]

European Convention of Human Rigths (2010). *Convention for the protection of human rights and fundamental freedoms, Art. 6. Right to fair trial.* Available at:

https://www.echr.coe.int/Documents/Convention_ENG.pdf [Accessed: June 22nd, 2019]

European Union Agency for Fundamental Rights (2011). *Access to Justice in Europe.* [online] Available at: https://fra.europa.eu/en/publication/2011/access-justice-europe [Accessed: June 22nd, 2019]

F

Faratin, P., Sierra, C., and Jennings, N.R. (2002). *Using similarity criteria to make issue trade-offs in automated negotiations, Elsevier Science, Artificial Intelligence*. Available at: https://ac.els-cdn.com/S0004370202002904/1-s2.0-S0004370202002904-main.pdf?_tid=3089dcbe-fa58-412d-af3a-1c2a8b7fe8c3&acdnat=1543009427_23dbb7d30b620e11c037e368d7a0b594 [Accessed: Nov. 27th, 2018]

Figueiredo, J. M.de, (2000). *Finding Sustainable Profitability in Electronic Commerce.* Sloan Management Review, pp.41-52.

Finlay, K. A., Trafimow, D., & Moroi, E. (1999). *The importance of subjective norms on intentions to perform health behaviour.* [Article] Journal of applied social psychology, 29(11), 2381-2393.

Filipiak, J. (1999*). 'F-Space: A method for functional network specification.'* The University of mining and metallurgy, Cracow, Poland. pp. 157. Parodi, Roberto (1992*). Towards a new world in computer communication.* Eleventh international Conference on Computer Communication, IOS Press, Genova, Italy.

Fisher, R., Ury, W.(1999). *Getting to Yes: Negotiating an agreement without giving in. 1st Edition.* London, UK: Random House Business Books.

Floridi, L. (2019). *What the near future of Artificial Intelligence could be.* Philos. Technol. Vol. 32: 1. https://doi.org/10.1007/s13347-019-00345-y

Floridi, L., & Sanders, J. W. (2004). *On the morality of artificial agents. Minds and Machines.* 14(3), 349–379.

Fornell, C. and Wernerfelt, B. (1987). *Defensive Marketing strategy by customer complaint management: a theoretical analysis.* Journal of Marketing research, Vol. 24, No. 4: 337-346.

G

Gartner (2015). *Gartner Reveals Top Predictions for IT Organizations and Users for 2016 and Beyond.* Gartner Symposium/ITxpo 2015 October 4-8, Orlando, Fla., Available at: https://www.gartner.com/newsroom/id/3143718 [Accessed: Dec. 04th, 2018]

Gartner (2017). *The Road to Enterprise AI, Predicts 2017: Artificial Intelligence.* RAGE frameworks. Available at:

https://www.gartner.com/imagesrv/media-products/pdf/rage_frameworks/rage-frameworks-1-34JHQ0K.pdf [Accessed: Dec. 04th, 2018]

Gartner (2018). *Gartner Says 25 Percent of Customer Service Operations Will Use Virtual Customer Assistants by 2020.* Press Released, Available at:

https://www.gartner.com/en/newsroom/press-releases/2018-02-19-gartner-says-25-percent-of-customer-service-operations-will-use-virtual-customer-assistants-by-2020 [Accessed: Nov. 27th, 2018]

H

Halliwell, D. and Francis, C. (2016*). International law firm Pinsent Masons has announced the roll out of an AI-powered commercial contracts solution to support clients responding to challenges posed by Brexit.* Pinsent Masons. Available at:

https://www.pinsentmasons.com/about-us/announcements/pinsent-masons-rolls-out-ai-for-brexit-challenge [Accessed: June 31st, 2019]

Hoffman, D. A. and Wolman, R. N. (2013). *The psychology of mediation. Cardozo J. of conflict resolution* [online], Vol. 14, pp. 763-764. Available at:

https://pdfs.semanticscholar.org/7f4a/269e1ffcdba05dd63a4de1fa762712d92215.pdf   [Accessed June 31st, 2019]

Holloway, B. B. and Beatty, S. E. (2003). *Services failure in online retailing.* Journal of service research, Vol. 6, No 1: 92-105.

Hussey, A. (2018). *ADR Guide 2018.* Law Society of Ireland [online]. Pp. 15-19. Available at: https://www.lawsociety.ie/globalassets/documents/committees/arbitration-and-mediation/adrguide.pdf [Accessed: May 20th, 2019]

K

Kakkar, S. and Monga, Vishal (2017). *A study on Artificial Intelligence in e-commerce,* International Journal of Advances in Engineering & Scientific Research. Volume 4,(Issue 4, Jun-2017), p 62-. ISSN: 2349 –3607 [Online], ISSN: 2349 –4824 [Print)].

Kersten, G.E. and Noronha, S.J. (1999). *Negotiation via the World Wide Web: A Cross-cultural Study of Decision Making.* Group Decision and Negotiation, 8, pp. 251-279.

Kersten, G.E. and S.J. Noronha, (1999). *'WWW-based negotiation support: Design, implementation and use.'* Decision Support Syst., 25: 135-154. Hanxiao Shi , (2010). *A Negotiation Supporting System Based on Characteristic of Negotiators.* Information Technology Journal, 9: 312-318. DOI: 10.3923/itj.2010.312.318 Available at: https://scialert.net/fulltext/?doi=itj.2010.312.318#360014_ja [Accessed: August 12th, 2019]

L

Lam, S. Y., Shankar, V., Erramilli, M. K., and Murthy, B. (2004). *Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context.* Journal of the Academy of MarketingScience, Vol. 32, No. 3: 293-311.

Law Reform Commission (2010), *Alternative Dispute Resolution: Mediation and Conciliation.* Report. Available at: https://www.lawreform.ie/_fileupload/reports/r98adr.pdf [Accessed: June 22nd, 2019]

Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design (7th ed.).* Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications, pp. 102.

Liu, A., Schwanda, V. S., Singh, K. (2018). *Building Empathy: Scaling User Research for Organizational* Impact. Google, Inc. Montreal, QC, Canada. Available at:

http://delivery.acm.org/10.1145/3180000/3174352/CS03.pdf?ip=217.115.121.89&id=3174352& acc=OA&key=4D4702B0C3E38B35%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35%2E5 945DC2EABF3343C&__acm__=1543326871_4ee31a2cdbadd725d9b496ffe7667cad [Accessed: Nov. 27th, 2018]

Lodder, A. R., and Zeleznikow, J. (2012). '*Artificial intelligence and Online Dispute Resolution.'* Wahab, M. S. A., Katsh, E., and Rainey, D. (2012). *Online Dispute Resolution: A Treatise on Technology and Dispute Resolution.* Journal of High Technology Law Suffolk University. Law School. The Netherlands: Eleven International Publishing, pp. 61-82.

M

Matwin, S. et al., (1989). *NEGOPLAN: An Expert System Shell for Negotiation Support.* IEEE Expert, 4(4), pp. 50-62.

McCarthy, John (2007). *What is Artificial Intelligence?* Computer Science Department. Stanford University, Stanford. Available at: http://www-formal.stanford.edu/jmc/whatisai.pdf [Accessed: Nov. 27th, 2018]

McCarthy, John (1990). *Review: Roger Penrose, The emperor's new mind, American Mathematical Society.* Bulletin (New Series) of the American Mathematical Society, Vol. 23, No. 2, pp. 606-616. Available at:

https://projecteuclid.org/download/pdf_1/euclid.bams/1183555924. [Accessed: Nov. 27th, 2018]

McCarthy, J. and Hayes, P.J. (1969). *Some Philosophical Problems from the Standpoint of Artificial Intelligence.* Computer Science Department, Stanford University, Stanford. Available at: https://www.csee.umbc.edu/courses/771/spring03/papers/mcchay69.pdf [Accessed: Nov. 27th, 2018]

McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (2006). *A proposal for the Dartmouth summer research project on artificial intelligence. August 31, 1955.* AI Magazine, 27(4), 12.

OECD, (2016). *Guidelines for Consumer Protection in the Context of Electronic Commerce.*
Available at: https://www.oecd.org/sti/consumer/ECommerce-Recommendation-2016.pdf
[Accessed: June 20th, 2019]

Mnookin, R. and Kornhauser, L. (1979). *Bargaining in the Shadow of the Law: The Case of Divorce.* Yale Law Journal, 88, pp. 950-997.

P

Pega (2017). *What consumers really think about AI: A global study.* Pegasystems. Available at:

https://www.pega.com/insights/resources/what-consumers-really-think-about-ai-global-study

[Accessed: June 15, 2019]

R

Radziwill, N., Benton, M. (2017). *Evaluating Quality of Chatbots and intelligent conversational agents.* arXiv. Available at:

https://pdfs.semanticscholar.org/6db8/2d07eedd9eb05b2996876486bfb2a141585a.pdf

[Accessed: July 11th, 2019]

Reynolds, N. (2016). *We Have a Deal : How to Negotiate with Intelligence, Flexibility, and Power.* London: Icon Books Ltd. Available at:

http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1096208&site=ehost-live

[Accessed: Nov. 9th, 2018].

Richmond. V. P., McCroskeY,J. C., & McCroskey, L. L. (1989). *An investigation of self-perceived communication competence and personality orientations.* Communication Research Reports, 6, 28-36. Available at: http://www.jamescmccroskey.com/publications/161.pdf
[Accessed: June 15, 2019]

Robert, G. Y., Ganichev, I., Wang, X., Shlens, J., and Sussillo, D. (2018). *A Dataset and Architecture for Visual Reasoning with a Working Memory.* Google Brain, New York. Available at: https://arxiv.org/pdf/1803.06092.pdf [Accessed: Nov. 27th, 2018]

Rogers, Everet, M. (2003) *Diffusion of innovations. Fifth Ed.*, London, The free press. Pp. 163-206.

Rogers, Matthew (2016). *Riverview Law's 'Kim' to unleash virtual assistants on legal sector.* Solicitors Journal [online] Available at:

http://www.solicitorsjournal.com/news/management/business-development/24813/riverview-law%E2%80%99s-%E2%80%98kim%E2%80%99-unleash-virtual-assistants-legal-se [Accesed: June 31st, 2019]

Roster, C.A., Rogers, R.D., Albaum, G. and Klein, D. (2004). *A comparison of response characteristics from web and telephone surveys.* International Journal of Market Research, Vol. 46 No. 3, pp. 359-73. Available at:

https://pdfs.semanticscholar.org/f8de/bbb585606d503f1049cfba3c1ddbad9352a8.pdf [Accessed: July 17, 2019]

S

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research method for business students (5th ed.).* England: Pearson Education Limited.

Schock, Kevin R. (2013). *Getting to Yes: Remembering Roger Fisher.* Penn State Law eLibrary. Available at:

https://elibrary.law.psu.edu/cgi/viewcontent.cgi?article=1105&context=arbitrationlawreview [Accessed: November 9th, 2018].

Sharma, R. (2016). *Role of Artificial Intelligence in e-commerce.* VTNetzwelt German-rooted co. Available at: https://hackernoon.com/role-of-artificial-intelligence-in-e-commerce-404cad38e1a [Accessed: Nov. 27th, 2018]

Sheppard, B. H., Hartwick, J., & Warshaw, P. (1988). *The theory of reasoned action: A metaanalysis of past research with recommendations for modifications and future research.* Journal of Consumer Research, 15(3), 325-343.

Shoefer, K. and Ennew, C. (2005). *The impact of perceived justice on consumers emotional responses to service complaint experiences.* Journal of services marketing, Vol. 19, No 5:261-270.

Stranieri, A. et al., (1999). *A Hybrid-Neural Approach to the Automation of Legal Reasoning in the Discretionary Domain of Family Law in Australia.* Artificial Intelligence and Law, 7(2-3), pp. 153-183.

Sycara, K. (1993). *Machine Learning for Intelligent Support of Conflict Resolution.* Decision Support Systems, 10, pp. 121-136.

T

The European Commission (2018). Artificial Intelligence, Approach to artificial intelligence and robotics. Available at: https://ec.europa.eu/digital-single-market/en/artificial-intelligence [Accessed: Nov. 27th, 2018]

Thiessen, E.M. and MacMahon, J.P. (2000). Beyond Win-Win in Cyberspace. Ohio State Journal on Dispute Resolution, 15, p. 643.

V

Van den Heuvel, E. (2000), *Online dispute resolution as a solution to cross-border e-disputes: an introduction to ODR.* Master thesis Utrecht University. Available at: http://www.oecd.org/internet/consumer/1878940.pdf [Accessed: May 25th, 2019]

Viola, Robert (2018). *Artificial Intelligence | The next frontier: Towards an AI 'made in Europe' with a human touch.* The European Commission. Available t: https://ec.europa.eu/digital-single-market/en/blogposts/artificial-intelligence-next-frontier [Accessed: Nov. 27th, 2018]

Vogt, W. (1999). *Dictionary of statistics and methodology: A nontechnical guide for the social sciences (2nd ed.).* Thousand Oaks, CA: SAGE Publications.

Vreeswijk, G.A.W. and Lodder, A.R. (2005). *GearBi: Towards an Online Arbitration Environment Based on the Design Principles Simplicity, Awareness, Orientation, and Timeliness.* Artificial Intelligence and Law. Volume 13, Issue 2, pp. 297-321.

W

Walliman, N. (2016). *Social Research Methods*. London: SAGE Publications Ltd.

Waterman, D.A. , Paul, J. and Peterson, M. (1986). *Expert Systems for Legal Decision Making. Expert Systems.* 3, (4), pp. 212-226.

Webb, R. (2017), *Superintellgence and public opinion.* NewCo Shift [online]. Available at: https://shift.newco.co/2017/04/24/Superintelligence-and-Public-Opinion/ [Accessed: June 31st, 2019]

Wildeboer, G.R. et al., (2007), *Explaining the Relevance of Court Decisions to Laymen.* in A.R. Lodder and L. Mommers (eds.), Proceedings of JURIX. Amsterdam: IOS Press, pp. 129-138.

Wimmer, R. D., & Dominick, J. R. (2014). *An introduction to mass media research.* Belmont, CA: Wadsworth.

Woodruff, A., Fox, S. E., Rousso-Schindler, S., and Warshaw, J. (2018). *A Qualitative Exploration of Perceptions of Algorithmic Fairness. Google and Human*. Centered Design & Engineering, and Department of Anthropology, Montreal, QC, Canada. Available at: http://delivery.acm.org/10.1145/3180000/3174230/paper656.pdf?ip=217.115.121.89&id=3174230&acc=OA&key=4D4702B0C3E38B35%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35%2E5945DC2EABF3343C&__acm__=1543326534_1d4eb9a71e28ea27d0832be18396c19c [Accessed: Nov. 27th, 2018]

Y

Yang, G., R., Ganichev, I., Wang, X., Shlens, J., and Sussillo, D. (2018). '*A database and architecture for visual reasoning with a working memory.'* Springer Nature Switzerland AG.

Ferrari, V., Hebert, M., Sminchisescu, C., and Weiss, Y. (2018). *Computer Vision – ECCV*

2018: 15th European conference, Munich, Germany, September 8-14, 201, Proceedings Part 10. Springer Nature Switzerland. pp. 729-745. Available at:

https://books.google.ie/books?id=JXxxDwAAQBAJ&pg=PA729&lpg=PA729&dq=Yang+et+al.+(2018)+artificial+intelligence+powerfully+and+flexibly+reason+about+the+sensory+environment&source=bl&ots=uq3cUYVzNQ&sig=ACfU3U0IdW0McYBao40RJ243zKNgOgBB1A&hl=en&sa=X&ved=2ahUKEwiRl4u_ge_jAhXjmFwKHfhYBz4Q6AEwAHoECAkQAQ#v=onepage&q=Yang%20et%20al.%20(2018)%20artificial%20intelligence%20powerfully%20and%20flexibly%20reason%20about%20the%20sensory%20environment&f=false [Accessed: July 10th, 2019]

Z

Zamora, Jennifer (2017). *I'm Sorry, Dave, I'm Afraid I Can't Do That: Chatbot Perception and Expectations.* Google, Inc. Bielefeld, Germany. Available at:

https://www.researchgate.net/profile/Jennifer_Zamora/publication/320438265_I%27m_Sorry_Dave_I%27m_Afraid_I_Can%27t_Do_That_Chatbot_Perception_and_Expectations/links/5bca5f16458515f7d9cb8f8b/Im-Sorry-Dave-Im-Afraid-I-Cant-Do-That-Chatbot-Perception-and-Expectations.pdf

[Accessed: Nov. 27th, 2018]

Zeleznikow, J. (2002). *Risk, Negotiation and Argumentation – A Decision Support System Based Approach, Law, Probability and Risk*, 1 pp. 37-48.

APPENDIX

Appendix A. AI & ADR questionnaire

Section 1

Do you voluntarily agree to participate in this survey?

a) Yes. I am over the age of 18 and agree to participate in this study.

b) No, I am not over the age of 18 or I do not agree to participate in this study.

Section 2

1. How comfortable are you/would you be with a business using Artificial Intelligence to interact with you?

	Very much 1	Somewhat 2	Neutral 3	Somewhat 4	Very much 5	
Uncomfortable						Comfortable

2. When you need customer service, what is typically your preferred channel of contact?
   a) Online Chat
   b) Social media
   c) Live representative on the phone
   d) Go into a store/branch
   e) No preference – whatever I have access to at the time

3. When you use online chat for customer service, which do you typically prefer to chat with?
   a) A person
   b) An intelligent robot/virtual assistant/chatbot
   c) No preference

4. How does the use of AI to resolve conflict on online shopping make you feel? (Select all that apply)
   a) Concerned
   b) Unsure
   c) Confused
   d) Neutral
   e) Excited

f) Optimistic

5. How much do you agree that AI can provide the same, if not better, levels of customer service than a human can today?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
1	2	3	4	5

6. In the future. Which of the following do you think would be the biggest benefit of the use of AI in solving disputes in customer service for online shopping?
   a) Lower business cost leading to customer savings
   b) Better service and customer satisfaction
   c) A faster response
   d) Less chance of human error
   e) Increased availability - 24 hours a day, 7 days a week

7. Which of the following do you consider to be more important?
   a) Human interaction
   b) The advantages of AI resolution listed above

8. How much do you agree that AI has the potential to improve customer service?

Strongly disagree	Disagree	Neither	Agree	Strongly agree
1	2	3	4	5

9. Do you think a current AI would be able to resolve conflict for online shopping? (e. g. misleading description of product or service, defective product needing return/refund, etc.)
   a) Yes
   b) No

10. Alternative Dispute Resolution is an alternative to legal proceedings that offers benefits such as low costs, and a quicker time to resolution. How much do you agree that the integration of ADR and AI would speed up the process of resolving disputes on online shopping?

Strongly disagree 1	Disagree 2	Neither 3	Agree 4	Strongly agree 5

11. Considering the 24 hours a day, 7 days a week immediate response, and the fact that AI could not be influenced by emotions. How satisfied would you be with the resolution/recommendations?

Dissatisfied
Very much 1	Somewhat 2	Neutral 3	Somewhat 4	Very much 5
Satisfied

12. What do you think could be done to improve the experience of trying to resolve a dispute with an online shopping transaction?

_____

13. Your gender
   a) Male
   b) Female
   c) Other

14. Age group
   a) 18-24 years old
   b) 25-34 years old
   c) 35-44 years old
   d) 45-54 years old
   e) 55-64 years old

Appendix B. First message

Artificial Intelligence is having a huge impact on online shopping, providing a modern experience. For example, Amazon's home assistant, Alexa, who you can simply ask to order whatever you like for the next morning. Alexa will use Amazon and place an order on your behalf, ready for delivery the next morning. Forget about rushing to the local store because you are out of milk! LG's instant view refrigerator with enormous touch screens built into the door provides news, weather updates, and can lend a hand with shopping orders.

My Starbucks barista utilises AI to enable customers to place orders with voice command or messaging. And Netflix makes TV and movie recommendations based on a user's interaction with categories e. g. drama, comedy, and action.

In summary, AI helps customers to find the best solution, improving recommendations and predicting behaviour to deliver a personalised shopping experience. Also, provide a personal touch with chatbots, simulating conversations with human users and providing instant online support.

The purpose of this study is to explore attitudes and perceptions of online shopping' consumers from their interactions with AI in dispute resolution in online customer service. Additionally, levels of satisfaction are examined to determine if increases or decreases from an integration of an alternative to legal proceedings assisted by Artificial Inteligente in online shopping customer service.

This questionnaire is to collect information about online shopping' customers in Dublin City.

All the information collected will be kept confidential.

Click this link to start answering the survey https://forms.gle/LvLDncCpL35i8xrQ7

Thanks for your participation.

Kind regards,

Marysol Tellez, researcher

If you have any question, please contact me via email <Redacted> or on my mobile (+353)

<Redacted>

Appendix C. First reminder

This is a reminder to take part in a study that aims to explore attitudes and perceptions of online shopping' consumers from their interactions with AI in dispute resolution in online customer service. Additionally, levels of satisfaction are examined to determine if increases or decreases from an integration of an alternative to legal proceedings assisted by Artificial Inteligente in online shopping customer service.

This questionnaire is using to collect information about the users in Dublin City and all the information collected will be kept confidential.

Click this link to start answering the survey https://forms.gle/LvLDncCpL35i8xrQ7

Thanks for your participation.

Kind regards,

Marysol Tellez, researcher

If you have any question, please contact me

By email <Redacted>

Phone: (+353) <Redacted>

Appendix D. Last reminder

Take part in a study that aims to explore attitudes and perceptions of online shopping' consumers from their interactions with AI in dispute resolution in online customer service. Additionally, levels of satisfaction are examined to determine if increases or decreases from an integration of an alternative to legal proceedings assisted by Artificial Inteligente in online shopping customer service.

This is the second and last reminder so do not forget to answer this questionnaire clicking the link below

Start questionnaire https://forms.gle/LvLDncCpL35i8xrQ7

Remember all collected information will be kept confidential.

Thanks for your participation.

Kind regards,

Marysol Tellez, researcher

If you need any more information, please contact me

By email <Redacted>

Phone: (+353) <Redacted>

Appendix E. Z Score Table – chart value corresponds to the area below z score.

Number in the table represents $P(Z \leq z)$
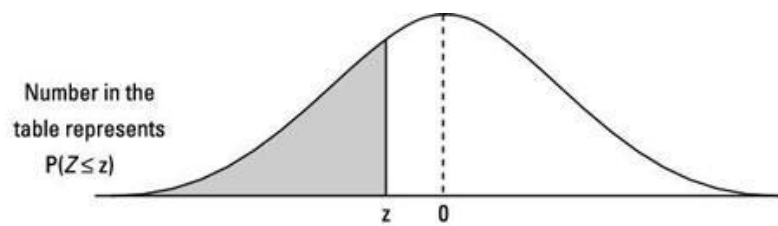
z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
–3.6	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001
–3.5	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002
–3.4	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
–3.3	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003
–3.2	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005
–3.1	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0007	.0007
–3.0	.0013	.0013	.0013	.0012	.0012	.0011	.0011	.0011	.0010	.0010
–2.9	.0019	.0018	.0018	.0017	.0016	.0016	.0015	.0015	.0014	.0014
–2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
–2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
–2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
–2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
–2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
–2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084
–2.2	.0139	.0136	.0132	.0129	.0125	.0122	.0119	.0116	.0113	.0110
–2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
–2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
–1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
–1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
–1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
–1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
–1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
–1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
–1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
–1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
–1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
–1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
–0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
–0.8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
–0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148
–0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
–0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
–0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
–0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
–0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
–0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
–0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641

Table 1. Source. Dummies (2014) "Statistics: 1,001 Practice Problems for dummies."

Z Score Table – chart value corresponds to the area above z score.

Number in the table represents P(Z≤z)

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
0.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
0.2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
0.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
0.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
0.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
0.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
0.7	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
0.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
0.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441
1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
1.7	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
1.8	.9641	.9649	.9656	.9664	.9671	.9678	.9686	.9693	.9699	.9706
1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9761	.9767
2.0	.9772	.9778	.9783	.9788	.9793	.9798	.9803	.9808	.9812	.9817
2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
2.2	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
2.4	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
3.0	.9987	.9987	.9987	.9988	.9988	.9989	.9989	.9989	.9990	.9990
3.1	.9990	.9991	.9991	.9991	.9992	.9992	.9992	.9992	.9993	.9993
3.2	.9993	.9993	.9994	.9994	.9994	.9994	.9994	.9995	.9995	.9995
3.3	.9995	.9995	.9995	.9996	.9996	.9996	.9996	.9996	.9996	.9997
3.4	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9998
3.5	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998
3.6	.9998	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999

Table 2. Source. Dummies (2014) "Statistics: 1,001 Practice Problems for dummies."

Explanation

The Z-table shows only the probability below a certain z-value. We want the probability between two z-values, –z and z. If 95% of the values must lie between –z and z, we expand this idea to notice that a combined 5% of the values lie above z and below –z. So 2.5% of the values lie above z, and 2.5% of the values lie below –z (Dummies , 2014).

To get the total area below this z-value, we take the 95% between –z and z plus the 2.5% below –z, and we get 97.5%. That's the z-value with 97.5% area below it. It's also the number with 95% lying between two z-values, –z and z (Dummies , 2014).

Appendix F. Participants' answers

Voluntarily participated	Q1.	Q2.	Q3.	Q4.	Q5.	Q6.	Q7.	Q8	Q9.	Q10.	Q11.	Q13.	Q12.	Q14.
No.														
Yes. I am over the age of 18 and agree to participate in this study.	4	Online Chat	A person	Excited, Optimistic	1	Lower business cost leading to customer savings	Human interaction	5	Yes	4	2	Male	Free money	35-44 years old
Yes	3	Go into a store/branch	No preference	Neutral	5	A faster response	Human interaction	5	Yes	2	5	Female	....	25-34 years old
Yes	1	Live representative on the phone	A person	Confused	1	Lower business cost leading to customer savings	Human interaction	2	No	1	2	Male	Have a person to interact	25-34 years old
Yes	3	No preference – whatever I have access to at the time	A person	Excited	3	Increased availability - 24/7/365	Human interaction	4	Yes	4	4	Female	The capacity and judge from the person who is giving the service	25-34 years old
Yes	3	Social media	A person	Neutral	3	A faster response	Human interaction	3	No	5	3	Male	Emotional and judgement capacity to solve a problem correctlyment	25-34 years old
Yes	3	Go into a store/branch	A person	Confused	3	A faster response	Human interaction	4	Yes	4	4	Female	Interacting with customers, reframing	25-34 years old
Yes	2	Live representative on the phone	A person	Unsure	2	Increased availability - 24/7/365	Human interaction	3	Yes	4	3	Female	Some steps done by AI and others by a person or supervised by one and interact when required	25-34 years old
Yes	5	Online Chat	A person	Unsure, Neutral	3	Lower business	The advantages	3	Yes	3	3	Male	AI with a mix of human interaction. AI limits only	25-34 years

126

						cost leading to customer savings	of AI resolution listed above						go so far (e.g. screaming at it from your laptop and not getting a solid, robust answer to an issue. The AI isn't going to start crying but you might ^^. Human interaction can be used to bridge this gap.	old
Yes	1	Go into a store/branch	A person	Confused	1	Lower business cost leading to customer savings	Human interaction	1	No	1	1	Female	.	35-44 years old
Yes	1	Go into a store/branch	A person	Confused	1	Lower business cost leading to customer savings	Human interaction	1	No	1	1	Female	.	35-44 years old
Yes	3	Go into a store/branch	A person	Neutral	2	Increased availability - 24/7/365	Human interaction	3	No	3	4	Male	Quick answer and easy understandable confirmation	35-44 years old
Yes	4	Go into a store/branch	A person	Neutral	3	Better service and customer satisfaction	Human interaction	4	Yes	4	3	Male	To be more specific and explained	25-34 years old
Yes	4	Live representative on the phone	A person	Confused	4	A faster response	The advantages of AI resolution listed above	4	Yes	5	5	Female	that are not so long waiting for response	35-44 years old
Yes	4	Live representative on the phone	A person	Neutral	3	Increased availability - 24/7/365	Human interaction	4	Yes	4	5	Male	Mixing humans and AI	35-44 years old
Yes	4	Live representative	A person	Concerned, Unsure,	3	Less chance of human	Human interaction	3	No	2	5	Female	Not asking so many questions before they help	25-34 years

		on the phone		Neutral		error								old
Yes	5	No preference – whatever I have access to at the time	An intelligent robot/virtual assistant/chatbot	Excited, Optimistic	5	A faster response	The advantages of AI resolution listed above	4	Yes	5	4	Female	Make it faster	18-24 years old
Yes	1	Go into a store/branch	A person	Unsure	1	Increased availability - 24/7/365	Human interaction	1	No	1	1	Female	A more dynamic format of terms and conditions.	35-44 years old
Yes	5	Go into a store/branch	A person	Neutral, Excited, Optimistic	1	A faster response	The advantages of AI resolution listed above	3	No	5	5	Female	Have someone to talk to	25-34 years old
Yes	3	Go into a store/branch	A person	Confused	1	Increased availability - 24/7/365	Human interaction	2	No	2	2	Male	None	25-34 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	3	A faster response	Human interaction	2	Yes	3	3	Female	Better practice	25-34 years old
Yes	3	Online Chat	A person	Concerned	1	Lower business cost leading to customer savings	Human interaction	3	No	3	4	Female	Not sure	35-44 years old
Yes	3	Online Chat	A person	Concerned, Confused	2	A faster response	Human interaction	3	No	2	3	Female	More respect and attention with consumer	35-44 years old
Yes	4	Online Chat	A person	Unsure	1	Increased availability - 24/7/365	Human interaction	3	Yes	4	3	Female	Quick answer.	25-34 years old
Yes	3	No preference – whatever I	No preference	Neutral	3	A faster response	Human interaction	2	Yes	3	3	Female	Better practice	25-34 years

		have access to at the time												old
Yes.	2	Social media	A person	Unsure	3	A faster response	Human interaction	3	No	2	3	Female	I think it is important that the solutions are effective and that the contact does not seem so impersonal	45-54 years old
Yes	3	Online Chat	A person	Neutral	2	Increased availability - 24/7/365	Human interaction	3	No	2	3	Female	Price of mediation.	25-34 years old
Yes	3	Go into a store/branch	A person	Unsure	4	Increased availability - 24/7/365	Human interaction	5	No	5	5	Female	Interaction	25-34 years old
Yes	1	No preference – whatever I have access to at the time	A person	Neutral	3	Less chance of human error	The advantages of AI resolution listed above	3	Yes	3	4	Female	More attention with the customes	35-44 years old
Yes	3	Social media	No preference	Optimistic	4	Better service and customer satisfaction	The advantages of AI resolution listed above	5	Yes	5	4	Female	Rapid responses	35-44 years old
Yes	3	Online Chat	A person	Unsure	1	Increased availability - 24/7/365	Human interaction	3	No	3	3	Male	Both side follow rules	35-44 years old
Yes	1	No preference – whatever I have access to at the time	A person	Neutral	3	Less chance of human error	The advantages of AI resolution listed above	3	Yes	3	4	Female	More attention with the customes	35-44 years old
Yes	5	Online Chat	A person	Unsure	1	Less chance of human error	The advantages of AI resolution listed above	3	Yes	3	3	Female	Not sure	25-34 years old

Yes	5	Online Chat	A person	Optimistic	4	Increased availability - 24/7/365	The advantages of AI resolution listed above	4	Yes	4	3	Female	have an alternative, another channel of communication	25-34 years old
Yes	2	No preference – whatever I have access to at the time	No preference	Neutral, Optimistic	3	Less chance of human error	The advantages of AI resolution listed above	4	Yes	4	4	Female	The imprecision in the informacion can be a barrier.	25-34 years old
Yes	4	Live representative on the phone	A person	Neutral, Excited	4	A faster response	The advantages of AI resolution listed above	4	Yes	4	4	Male	Better AI	25-34 years old
Yes	4	No preference – whatever I have access to at the time	A person	Neutral	3	Better service and customer satisfaction	The advantages of AI resolution listed above	4	No	4	4	Female	As with any new technology, shopping online can be used to enhance our shopping satisfaction or to alienate us from IA. In this case I think it's important that all the process to shopping have to been absolutely clear and with options for any inconvenience during the process	35-44 years old
Yes	2	Live representative on the phone	A person	Concerned, Confused	3	A faster response	Human interaction	2	No	3	5	Female	Fast answers	25-34 years old
Yes	5	No preference – whatever I have access to at the time	No preference	Optimistic	4	Increased availability - 24/7/365	The advantages of AI resolution listed above	5	Yes	3	5	Female	Cash	55-64 years old

Yes	5	Online Chat	An intelligent robot/virtual assistant/chatbot	Excited, Optimistic	5	A faster response	The advantages of AI resolution listed above	5	Yes	5	5	Female	A mix. Human interventions when artificial intelligence detects the customer is not happy with the process.	25-34 years old
No														
Yes	2	Go into a store/branch	No preference	Unsure	4	Less chance of human error	Human interaction	4	No	4	4	Male	Don't know	25-34 years old
Yes	5	Online Chat	A person	Excited, Optimistic	4	Increased availability - 24/7/365	The advantages of AI resolution listed above	4	Yes	3	5	Male	Have ai reviewed	35-44 years old
Yes	2	Online Chat	A person	Unsure, Confused	2	Less chance of human error	Human interaction	3	No	2	3	Female	Humans need to calm down and accept that not everything can be fixed immediately.	25-34 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	4	A faster response	The advantages of AI resolution listed above	4	Yes	4	5	Female	AI will be the best option no feelings involved	35-44 years old
Yes	1	No preference – whatever I have access to at the time	A person	Unsure, Confused	3	A faster response	Human interaction	3	No	4	3	Male	More consumer information about the product you are purchasing and clear guidelines or faqs about returns policy etc	25-34 years old
Yes	5	Online Chat	A person	Concerned, Unsure, Confused	1	Increased availability - 24/7/365	Human interaction	3	No	2	3	Male	AI response more natural	25-34 years old
Yes	1	Live representative	A person	Concerned	1	Better service and	Human interaction	2	No	2	1	Female	Don't have correctly answers	25-34 years

		on the phone				customer satisfaction								old
Yes	3	Social media	A person	Neutral	4	Increased availability - 24/7/365	Human interaction	4	Yes	4	4	Female	better and trusted technology	25-34 years old
Yes	4	Live representative on the phone	A person	Unsure	3	Increased availability - 24/7/365	Human interaction	3	Yes	3	3	Female	the time it takes to run	25-34 years old
Yes	5	Online Chat	A person	Confused	2	Less chance of human error	Human interaction	5	No	3	2	Other	Read my online data better	35-44 years old
Yes	5	Online Chat	A person	Concerned, Excited	4	A faster response	The advantages of AI resolution listed above	5	Yes	4	4	Female	More information to the customer about how the proceeds using Artificial Intelligence would be. Educate consumers about alternatives to legal proceedings and their advantages.	25-34 years old
Yes	3	Live representative on the phone	No preference	Neutral	2	Increased availability - 24/7/365	Human interaction	2	No	1	1	Male	Get more people to improve time of response	35-44 years old
Yes	5	Online Chat	A person	Neutral, Excited	3	A faster response	Human interaction	4	Yes	4	4	Male	Na	35-44 years old
Yes	5	Online Chat	No preference	Neutral	4	Lower business cost leading to customer savings	The advantages of AI resolution listed above	4	Yes	5	4	Male	Processes that save me time and money	25-34 years old
Yes	5	Online Chat	No preference	Neutral	4	Increased availability - 24/7/365	Human interaction	5	Yes	5	3	Female	More prepared employees in customer service	35-44 years old
Yes	1	Go into a store/branch	A person	Concerned	1	Lower business	Human interaction	1	No	1	1	Female	Improve personal attention	45-54 years

						cost leading to customer savings								old
Yes	3	Social media	No preference	Neutral, Excited	4	Better service and customer satisfaction	The advantages of AI resolution listed above	4	Yes	4	5	Male	Speed up in processing customer demands	25-34 years old
Yes	5	Go into a store/branch	A person	Neutral	3	Lower business cost leading to customer savings	Human interaction	3	No	3	3	Male	Less costs	35-44 years old
Yes	5	Live representative on the phone	No preference	Excited	5	Increased availability - 24/7/365	The advantages of AI resolution listed above	5	Yes	5	5	Female	Take less time to resolve my problem	25-34 years old
Yes	5	Online Chat	No preference	Neutral, Excited	5	Better service and customer satisfaction	The advantages of AI resolution listed above	5	Yes	5	5	Female	Better knowledge of customers	35-44 years old
Yes	3	Live representative on the phone	A person	Neutral	3	Increased availability - 24/7/365	Human interaction	3	Yes	4	4	Female	Solution for my problems at any time	35-44 years old
Yes	1	Go into a store/branch	A person	Concerned, Unsure	1	Increased availability - 24/7/365	Human interaction	2	No	4	1	Female	More training for employees to give customer service	25-34 years old
Yes	5	Go into a store/branch	No preference	Unsure	4	Increased availability - 24/7/365	Human interaction	4	No	4	4	Female	Attention 24hrs	25-34 years old
Yes	5	No preference – whatever I have access to	No preference	Excited	4	Better service and customer	The advantages of AI	4	Yes	4	4	Female	Make AI better to expand hours of customer service	25-34 years old

		at the time				satisfaction	resolution listed above							
Yes	3	Live representative on the phone	A person	Confused, Neutral	3	Lower business cost leading to customer savings	Human interaction	3	No	3	3	Female	That don't t take too long to get an answer	25-34 years old
Yes	4	Online Chat	No preference	Neutral	3	Lower business cost leading to customer savings	Human interaction	4	Yes	4	4	Male	Save me money	25-34 years old
Yes	5	Online Chat	No preference	Excited, Optimistic	5	Increased availability - 24/7/365	The advantages of AI resolution listed above	5	Yes	5	5	Female	Make it faster	25-34 years old
Yes	5	Online Chat	No preference	Neutral	3	Increased availability - 24/7/365	Human interaction	3	Yes	4	3	Male	A mix of both AI and humans	35-44 years old
Yes	5	Online Chat	No preference	Neutral	4	A faster response	Human interaction	4	Yes	4	3	Female	Someone that understand my information better	25-34 years old
Yes	3	Live representative on the phone	A person	Concerned, Unsure	1	Lower business cost leading to customer savings	Human interaction	3	No	3	2	Female	Training representatives for better customer service and you wouldn't mind to pay to have the best attention at hand	35-44 years old
Yes	5	Social media	No preference	Confused	4	A faster response	The advantages of AI resolution listed above	4	Yes	4	5	Female	Faster response	35-44 years old
Yes	5	No preference – whatever I	No preference	Neutral, Excited	5	Increased availability -	Human interaction	5	Yes	5	5	Female	Understand me better	35-44 years

		have access to at the time				24/7/365								old
Yes	3	Live representative on the phone	A person	Neutral	4	Increased availability - 24/7/365	Human interaction	4	Yes	3	4	Male	Save me money	25-34 years old
Yes	5	No preference – whatever I have access to at the time	No preference	Excited	5	Increased availability - 24/7/365	The advantages of AI resolution listed above	5	Yes	5	5	Male	AI use by humans to help them	35-44 years old
Yes	3	Social media	A person	Neutral	4	A faster response	Human interaction	4	Yes	4	4	Male	Fast answers	35-44 years old
Yes	3	Online Chat	No preference	Neutral	3	Increased availability - 24/7/365	Human interaction	3	Yes	3	3	Male	Both humans and technology	25-34 years old
Yes	5	Live representative on the phone	No preference	Neutral, Optimistic	5	A faster response	Human interaction	4	Yes	4	4	Female	Shorter time of response	25-34 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	3	Lower business cost leading to customer savings	Human interaction	3	Yes	3	3	Male	Time, it takes too long..	35-44 years old
Yes	5	Live representative on the phone	A person	Neutral	5	A faster response	The advantages of AI resolution listed above	5	Yes	5	5	Male	Take less time	35-44 years old
Yes	3	Live representative on the phone	No preference	Excited	3	Increased availability - 24/7/365	Human interaction	3	Yes	3	3	Female	More people to attend my calls	25-34 years old
Yes	5	Online Chat	No preference	Excited, Optimistic	5	Better service and customer	Human interaction	5	Yes	5	5	Female	That they don't make you wait so long for a resolution to my problem	25-34 years old

135

						satisfaction								
Yes	5	Live representative on the phone	No preference	Neutral	4	Increased availability - 24/7/365		4	No	4	4	Female	Know my information better	35-44 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	3	Lower business cost leading to customer savings	Human interaction	3	No	3	3	Male	More information	25-34 years old
Yes	5	Online Chat	No preference	Excited, Optimistic	5	Better service and customer satisfaction	The advantages of AI resolution listed above	5	Yes	5	5	Male	Make AI act more as human	35-44 years old
Yes	4	No preference – whatever I have access to at the time	No preference	Neutral	4	Increased availability - 24/7/365	Human interaction	4	Yes	4	4	Female	Permanent attention	25-34 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	3	A faster response	Human interaction	3	No	3	3	Male	Fast answers	35-44 years old
Yes	5	Online Chat	No preference	Excited, Optimistic	5	Better service and customer satisfaction	Human interaction	5	Yes	5	5	Female	Human assisted by technology as emotions are important to make you feel satisfied	25-34 years old
Yes	5	No preference – whatever I have access to at the time	No preference	Neutral	4	A faster response	Human interaction	4	Yes	4	5	Female	Make it fast	25-34 years old
Yes	3	Live representative on the phone	A person	Neutral	3	Increased availability - 24/7/365	Human interaction	3	No	3	3	Male	Person to interact	25-34 years old
Yes	5	Online Chat	No preference	Excited,	5	Better	The	5	Yes	5	5	Female	Better use of my	25-34

				Optimistic		service and customer satisfaction	advantages of AI resolution listed above						information for technologies and people to give me better services and offer me what I looking for	years old
Yes	3	Online Chat	A person	Concerned, Neutral	2	Increased availability - 24/7/365	Human interaction	2	No	2	2	Female	Don't take too long to understand and process my issues	25-34 years old
Yes	4	No preference – whatever I have access to at the time	No preference	Neutral	5	Better service and customer satisfaction	Human interaction	4	Yes	4	4	Female	AI to rapid response and humans to discuss your problem	25-34 years old
Yes	2	Live representative on the phone	A person	Confused	2	Increased availability - 24/7/365	Human interaction	2	No	2	2	Female	Have someone any time I need help	35-44 years old
Yes	5	No preference – whatever I have access to at the time	No preference	Optimistic	5	Better service and customer satisfaction	The advantages of AI resolution listed above	5	Yes	5	5	Male	They give me resolutions to my problems quick	25-34 years old
Yes	5	Online Chat	No preference	Excited	4	Better service and customer satisfaction	The advantages of AI resolution listed above	4	Yes	4	4	Female	Use AI to know better what I need and give me answers faster	25-34 years old
Yes	3	No preference – whatever I have access to at the time	No preference	Neutral	4	A faster response	Human interaction	4	Yes	4	4	Male	That don't make you wait too long on the phone	25-34 years old
Yes	4	No preference – whatever I have access to at the time	No preference	Neutral	2	A faster response	Human interaction	3	No	4	3	Female	Better trained staff	25-34 years old
Yes	2	Go into a store/branch	A person	Concerned	1	Increased availability -	Human interaction	2	Yes	3	3	Male	It's all about response time	25-34 years

						24/7/365								old
Yes	1	Live representative on the phone	No preference	Unsure	1	Lower business cost leading to customer savings	Human interaction	1	No	1	1	Male	Need real human transaction specialist	25-34 years old