The Rise of Chatbot Technologies: Reducing Friction in the Legal Services Market

How can Chatbots Improve the Practice of Law and Access?

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I.   Background

Throughout the globe, there is a reported rise in the demand for methods and strategies to increase productivity, profitability, and customer reach in the business of law. This has been seen with the rapid adoption of artificial intelligence (AI) and cloud computing systems to automate document uploads, retrievals and sharing, which has extended further to document review, analysis and text generation, or contract management systems. All these technologies have one question in common: how to reduce friction in the delivery of legal services? The impact made by COVID-19 in the business of law is evident in almost all regions, as we witnessed businesses closing their physical structures and shifting their attention to online platforms.[1] In delivering client-customer satisfaction through online services, legal departments are still experimenting and adopting upcoming technology tools to improve convenience, productivity, efficiency, and customer engagement.[2] This article will explore a technology that is becoming common in the maximization of client experience in virtual platforms. Chatbots coupled with an AI

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[1] R Ready Corporate Legal Is Hungry for Tech Transformation—And Wants Firms to Help Lead Them (2021) *LAW.COM*, available at https://www.law.com/legaltechnews/2021/04/26/clients-bring-firms-along-for-tech-transformation/ accessed on 27 April 2021.

[2] Ibid.

flavour are significantly improving client experience across various disciplines.[3] This article will assess their nature in reducing frictions or barriers in delivering online legal services, especially in regions like Africa and Latin America, where there is a high demand for accessible legal services and assistance.

A.　　What Is a Chatbot?

Advances in AI and instant messaging platforms such as Facebook, Telegram, Slack, WhatsApp, and Twitter are reasons behind the belief that intelligent chatbots may well be within the scope to reach users in the context of instant messaging.[4] In 1950, Alan Turing proposed the Turing Test, which refers to the question of whether machines are capable of thinking, and this led to the popularized concept of chatbots.[5] ELIZA was the first known chatbot developed in 1966 and its primary focus was to act as a psychotherapist returning the user's utterances in a question format.[6] After several decades of testing and developing chatbots, in 1995 A.L.I.C.E. was the most sophisticated chatbot technology available as it relied on a simple pattern-matching algorithm based on Artificial Intelligence Markup Language (AIML) knowledge.[7] This gave rise to the creation of a virtual personal assistants like Apple Siri, Microsoft Cortana, Amazon Alexa, Google Assistant, and IBM Watson.[8] The hype around chatbots began around 2016, even though the technology has been around for decades.[9] Chat robots gave birth to the word chatbot, referring to a machine agent that serves as a natural language user interface to data and services through voice or text.[10] These technologies allow users to ask questions or make commands in their everyday language to get the required content or services.

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[3] Oracle What is a Chatbot? available at https://www.oracle.com/za/chatbots/what-is-a-chatbot/ accessed on 27 April 2021.

[4] E Adamopoulou & L Moussiades An Overview of Chatbot Technology (2020) 584 *Artificial Intelligence Applications and Innovations* 374.

[5] Ibid.

[6] Ibid, 585.

[7] Ibid, 376.

[8] Ibid.

[9] PB Brandtzaeg & A Fosted Chatbots: changing user needs and motivations (2018) 25(5) *Interactions*, 40.

[10] Ibid, 39.

After the year 2016, Scopus reported an exponential growth of interest in chatbot technology, as indicated in the figure below:[11] This figure represents search results for "chatbot", "conversational agent", or "conversational interface" as keywords from the year 2000 to 2020.[12]

Documents by year — Scopus
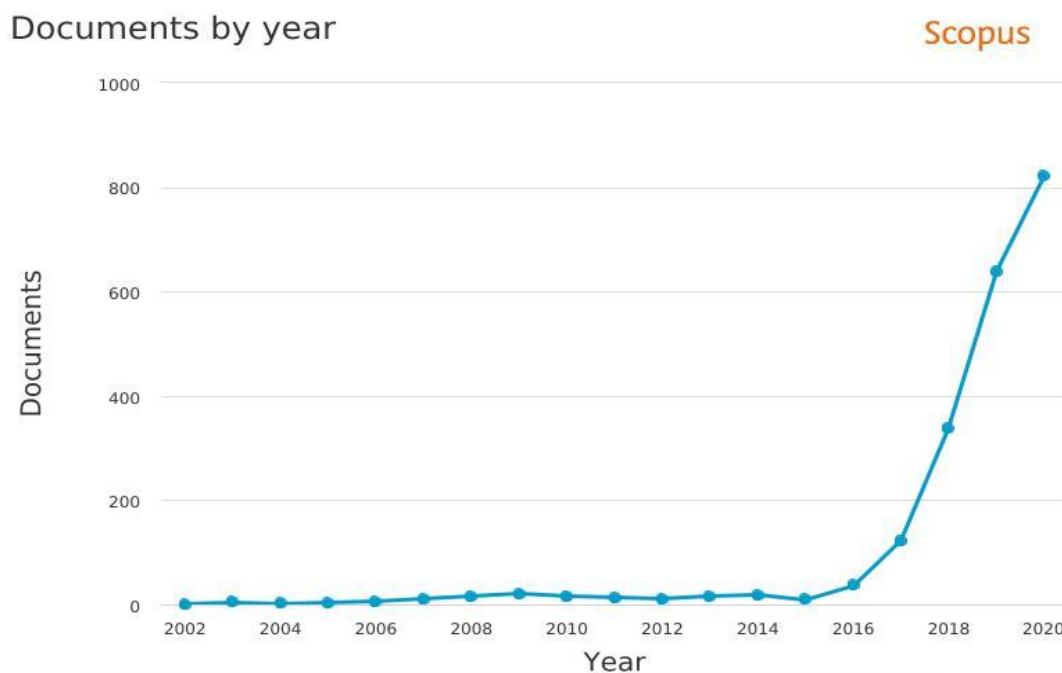
There is a relatively high probability that the large amount of time people spend on instant messaging applications raises the same expectation when engaging with chatbot technologies. In 2017, Facebook Messenger reached about 1.2 billion active users per month.[13] Given this exponential growth of people direct messaging each other and receiving instant responses, companies soon realised that chatbots might be a critical way to reach customers.[14] More than 50 percent of enterprises will spend more per annum on chatbots and chatbot creation than traditional mobile app development.[15] This is not only

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[11] Scopus Document seach and analyzing tool, available at https://www.scopus.com.
[12] Ibid.
[13] PB Brandtzaeg & A Fosted (Note 9 above).
[14] Ibid.
[15] Brandtzaeg & Fosted (Note 4 above).

seen with big technology giants such as Google, Amazon, Facebook, and LinkedIn but also consumer services companies such as Starbucks, British Airways, Airbnb, and eBay.[16] Clearly, chatbots are not to replace human consultants, however they are to maximize customer reach and improve instant response to client's concerns. Which in turn, it is to advance the client's experience and connectedness with the organisation and compete with tools that people engage with daily, which are instant messaging applications. There are different kinds of chatbots, from conversational chatbots to informative chatbots, and the classification primarily depends on the end-goal of which the chatbot aims to achieve.[17] Let us look at some of the intrinsic features in chatbot technologies.

B.   Characteristics of Chatbot Technologies

Here are some of the features that make chatbot technologies more valuable, especially in legal services improvement and delivery. These characteristics are not conclusive as they may differ depending on the standpoint in which a person adopts. Adamopoulou & Moussiades, in their paper, highlighted quite compelling characteristics that chatbot technologies possess, which I think cannot be ignored when studying chatbots in relation to the legal profession.[18]

- A human-computer interaction (HCI). The phrase refers to the general discipline where professionals study, improve and design graphical user interfaces or the interaction between humans and computers through natural language.[19] The term serves as a definitive explanation that computers are not yet to perform tasks independently without some form of human intervention. It is crucial to address this first characteristic as the starting point because what is mostly witnessed is a belief in the society that computerised performances are to replace human professionals. Chatbots fit within a broader HCI scope to improve human-

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[16] Gartner top strategic predictions for 2018, available at https://www.gartner.com/en/documents/3803530-top-strategic-predictions-for-2018-and-beyond-pace-yours accessed on 10 April 2021.

[17] Brandtzaeg & Fosted (Note 4 above).

[18] Adamopoulou & Moussiades (Note 1 above).

[19] PA Booth *An introduction to human-computer interaction* (1989) 2-5.

computer interaction through natural language methods, either using voice or text.

- Artificial Intelligence and Markup Language (AIML). This refers to the natural language modelling for the dialogue between humans and chatbots that adopts the stimulus-response approach.[20] This approach shifts the focus to the user's end-goals rather than the object of the design itself, which only implies developing an interactive system.[21] The anticipation is that chatbots are to achieve convenience in accessing conversational threads. This element takes it a step further to suggest that when users interact with a chatbot in a natural language format, they expect to have their questions answered.

- Latent Semantic Analysis (LSA), Natural Language Processing (NLP), and Natural Language Understanding (NLU). This aspect concerns itself with the meaning, connection, and context in which words are applied.[22] For example, this aspect focuses on unstructured questions instead of using AIML, which focuses on template-based questions like greetings.[23] To bring this into context, chatbots must generate some form of response, even from random questions that are not embedded during the model's training. In essence, chatbot technology must be able to create context-specific replies based on the language that is used. For example, information chatbot technologies used in health and legal sectors are based on different languages and contexts. This means chatbot technologies must be able to give responses in the context which is relevant to their field-specific domain.

II.   Common Frictions in Delivering Online Legal Services

The legal services market is currently facing several challenges in reaching more customers and increasing customer-client satisfaction and experience. The days when

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[20] Adamopoulou & Moussiades (Note 1 above).
[21] Ibid.
[22] Ibid.
[23] Ibid.

lawyers had the final say are over now, it is all about the end-user. What worsened the situation is the increased competition from sectors which lawyers never expected competition to come from. In the digital age, users are constantly engaging with platforms and services that seem frictionless because of their use of algorithmic-data-centric approaches that continuously learn their behaviour to improve engagement and experience. This is not to say the legal profession is compelled to adopt this approach, but there is an increased demand for a better client-customer engagement and experience from a user's perspective. Let us look at some of the common frictions in delivering better client experience in the practice of law and some of the possible applications of chatbot technologies to them.

- Information collection and document filing. There is still an increased demand for legal services. For example, many African regions still have many people who cannot consult with a legal practitioner. This is due to many common reasons, such as the unaffordability of legal services, which is somehow caused by the number of time attorneys spend per client.[24] Registering new clients using pen and paper can soon be supplemented by a chatbot. This can also be achieved through the question-and-answer approach instead of requiring clients to register their information manually on physical documents. This kind of application has proven to be a success in the pro bono field. For example, A2JAthour allows legal practitioners to build and implement user-friendly web-based document assembly projects.[25]

- Scalability reinforces the question of productivity and reach. For example, how can the business of law deliver value and reach more people efficiently? Undoubtedly this is where technology comes in. High work loads on legal practitioners prevents them from reaching more clients and responding to their concerns efficiently. Which can have a negative impact to business growth as it prevents scale and

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[24] Magubane, T Technology and Law: The Use of Artificial Intelligence and 5G To Access the Courts in Africa (2021) 3(11) *Young African Journal of Development* 78-9.
[25] A2JAthour, available at https://www.a2jauthor.org/, accessed on 19 April 2021.

reaching to new markets. In every domain, clients are looking for ways to gain more for less. Same applies to the practice of law, there is a generation of legal practitioners searching for ways to deliver more value to clients in less costs, at the same time developing new fee models such as *low bono* to increase revenue and scale. Computer-generated responses stand a possibility to help practitioners respond to their clients in a timeously manner. This gives practitioners time to focus on more difficult tasks that require thought and search for further business opportunities.

- Customer/Client experience. One of the few factors that influences a positive or negative client experience is the relationship, communication, and feedback between client and a legal practitioner.[26] Due to the high volumes of work and the models used for billing, the legal business has been investing less time in human or customer connection. This is seen with the delayed responses to client's concerns, and inability to give and receive feedback. This is to ensure that clients feel connected and important to the business, as it is not only about solving their legal issues, but it extends further to modes of creating trust and value. The adoption of NLP centered technologies such as chatbots can have a large role to play in enhancing the client's connectedness to the organisation. It is important to mention that chatbots are not to render legal advice, but they are to produce automated responses to client's concerns. These responses can range from general queries such as checking the availability of an attorney for consultations, to specific queries such as consultation quotations and directives.

III.   Expected Implications of Chatbot Technologies on Access to Justice

Access to justice has been understood as broadly concerned with the ability of people to obtain a just resolution to the legal problems they are facing and be able to enforce their

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[26] Calibrate Legal Innovating the Law Firm Client Experience in a Post-Coronavirus World, available at https://calibrate-legal.com/innovating-the-law-firm-client-experience-in-a-post-coronavirus-world/, accessed on 19 April 2021.

rights.[27] This is further for compliance with human rights standards to be achieved through formal and informational institutions of justice that are impartial and have appropriate legal support.[28] For example, in 2019, the Department of Statistics in South Africa reported that it took 338 days to resolve a dispute on average, while it took 873 days for a person to give up.[29] The concept of access to justice has been centralized on overcoming the procedural barriers within the justice system, for both legal practitioners and the courts.[30] Which places a significant importance on the system being seen as accessible, affordable, efficient, and effective.[31] Rhode clarifies that one of the most significant barriers to access justice is finances, structural, doctrinal, and political dimensions.[32] The issue involves the absence of a coherent system for allocating assistance and matching clients with the most cost-effective service provider.[33] South Africa is used as an example; however, access to justice is of global concern and it is much more felt in developing regions.[34]

Access to justice is not only impaired by the speed at which cases are finalised or by the inability to access a legal practitioner. Administrative barriers also play a significant role in denying people the ability to bring their matters to an independent tribunal or court. These barriers are normally caused by century-long frictions that impair the legal profession's ways of efficient execution of tasks. Frictions in the justice system vary from information capturing, processing, storage, retrieval, and feedback collection for services improvement. This article calls for the shift of attention to how we can incorporate chatbot

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[27] Statistical Release *P0340 Governance and Access to Justice,* available at http://www.statssa.gov.za/publications/P0340/P03402019.pdf, accessed on 27 April 2021.
[28] Ibid.
[29] Ibid, 41.
[30] M Nyethi Access to justice in the South African social security system: Towards a conceptual approach (2013) 46(4) *De Juri* 902.
[31] Ibid.
[32] DL Rhode 'Access to Justice: A Roadmap For Reform' (2016) 41(4) *Fordham Urban Law Journal* 1228.
[33] Ibid, 1230.
[34] United Nations and the Rule of Law Access to Justice, availabel at https://www.un.org/ruleoflaw/thematic-areas/access-to-justice-and-rule-of-law-institutions/, accessed on 27 April 2021.

technologies in minimising frictions in the justice system. For example, a chatbot can be used to capture the user's or client's information, fill in essential electronic documents, and, most importantly, for services improvement through feedback collection and instant response.

IV. Possible Downsides of Chatbot Technologies

Like every other technology application available, there are possible benefits and downsides to it. Let us look at some of the possible downsides that can be expected from chatbot technologies.

- Miscommunication. Some chatbots are trained to answer specific questions. There is always a situation where users ask a question fitting outside the structured questions that a chatbot is expected to answer. In such cases, chatbots provide answers which are not aligned with their end-goal. However, many chatbots collect data from the user's interactions with the aim to improve the language and quality of responses provided in the future. This is another form of mitigating miscommunication in chatbot technologies.

- Another common downside that is faced across other fields of technology domains is public confidence. I think this belief is primarily caused by society's perception that robots are entirely going to replace human professionals, which is not yet feasible. What usually happens is that when these new technologies are presented, there is less optimism as many people begin comparing them to the standard of human professionals, which in turn causes a slow-phased adoption of new technologies with the potential of improving business performance and customer reach.

V. Conclusion

Legal departments are constantly looking for ways to improve convenience, productivity, efficiency, customer reach and engagement. Undoubtedly there is a role to be played by technology tools in this mission, both for social benefits and business opportunities. The ability of chatbots to instantly reach out to a broader audience effectively than human

professionals is what makes them important. The quest is to look at this piece of technology not as a competition to human professionals but on how it can work hand-in-hand with practitioners to reach more people in less time. Customer experience and engagement has proven business success in other-field specific domains. The business of law can learn from these sectors to increase the probability of achieving more success and deliver more value to users.