Assessing Chatbot Interaction as a Means of Driving Customer Engagement

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Digital and mobile platforms are extensively used by customers in their interactions with companies in 2018. Messenger services and real time chat applications allow the basis for conversations to be held between customer and company acting as a direct line to individuals, in the way that personal selling in the past was able to build engagement and loyalty.

The digital consumer has high demands and expectations from what is delivered by companies online. With messengers surpassing social media in usage, customers are turning to a medium of interaction that companies may seize as a means of gathering massively usable, personally identifiable customer data, to generate the kinds of one to one customer service previously unprecedented.

It is observed that chatbots are a largely unrecognized and underestimated part of companies' routes to developing advanced digitally engaging relationships with their audiences. Too much uncertainty surrounding the platform has led to many contradictory voices, and a need for some clarity to piece together the many bodies of current research on such a novel subject. This is one of the aims of this thesis.

Deliverable characteristics of chatbots have been assessed in their relation to the current digital marketing challenges, namely offering a platform for personalized, advanced customer experiences that can leverage data whilst being rewarding and engaging for consumers. The key deliverable of customer engagement is observed as through the means of conversational marketing, personalization, and enhanced customer experience, all provided through chatbots as a unified solution to a multi-faceted problem.

It was found that chatbots are readily capable of providing this solution through all the identified channels, however, their effectiveness in the short term will depend on their ability to compensate for several limitations that are presented and discussed. The conclusion is drawn that chatbots are presently a powerful digital marketing tool and excellent facilitator to customer engagement, and will become even more prominent in years to come.

Secondary research has been compiled and reflected upon in this body of work in order to obtain a more balanced and realistic perspective on the genuine capabilities of chatbots. Caution has been observed with respect to considerations of ethics and privacy, which are identified as potential stumbling blocks, as ultimately, despite being high quality replicators of human to human interaction, and offering many of the associated benefits to companies, chatbots, like any user experience platform, are ultimately dependent on the behavior of their users.

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1 Introduction

In the world of digital marketing in 2018, one cannot escape the hyperbole surrounding the artificial intelligence revolution. Columbus (2018) writing for Forbes highlights how 84% of organisations introduced or expanded artificial intelligence resources in the past year, making somewhat of a 'must have' trend. With customer experience at the forefront of the majority of marketers' priorities (Mehta 2018), exacting consumer demands across digital platforms have given rise to necessity for companies to promote more extensive tools to capture the holy grail of lead nurturing: customer engagement. This thesis explores the rise of artificial intelligence as a facilitator in developing a unified solution to one of the current key challenges in digital marketing, namely enhancing customer engagement and harbouring trust and loyalty through the delivery of personalised marketing with an optimal user experience. The concept of conversational marketing through chatbot interaction is to be the focal point of the research, with the objective of identifying the best means of harnessing the potential of chatbot technology as a digital marketing tool, with conversational marketing as a means of driving customer engagement. Customer behaviour and user experience are considered as contributing factors to the optimal applications of the chatbot technology. As well as examining the aforementioned themes and their roles in chatbot functionality and optimisation, limitations and future recommendations are to be presented. This is of particular importance considering the relative novelty of the technology, and how as with and new technological trend in the digital age, it is imperative that companies adopt the technology in a timely manner to avoid missing out on the wave of "first adopter" phenomenon.

1.1 Objectives

The main objective for this thesis is to assess and critique a novel technology that is currently highly trending in the world of digital marketing: chatbots as conversational marketing tools. With marketing automation a key 2018 topic, chatbots are one of the most prolifically employed technologies as they allow businesses to replicate the kind of human to human conversation that creates enhanced engagement through interactivity, allows data and insight into consumer behaviour to be obtained and utilised to personalise communications, and improve the user experience to promote brand loyalty. As ever with adoption of new technology, in the early stages there are many uncertainties that prevent the results living up to the potential. Companies may be keen not to miss out on first adopter status with chatbot technology, but may also be lacking technical knowledge and understanding of how best to implement the technological platform. This thesis serves to provide an overview of the current state of chatbot technology and assess its contribution to the desired effect of enhancing user experiences, promoting engagement, and delivering

personalisation. Desktop research is to be undertaken and thematic analysis conducted to offer insight into the capabilities of the technology, provide recommendations to enhance its usefulness, and accelerate its development and integration to digital marketing strategies.

The body of work is born out a desire to develop a unified strategy to address current digital marketing challenges, whilst utilising a trending technology surrounded by uncertainty. Given the observed trend in artificial intelligence and automated marketing processes amongst widespread debate on its genuine evidential benefit versus investment cost, this thesis aims to offer solution to the identified challenges of optimising user experience across digital platforms whilst simultaneously promoting engagement through interactivity and personalised communication delivery. Despite being an ambitious objective, the author is confident that these observed current challenges share enough commonality that they may be interwoven through a digital marketing strategy that incorporates chatbot technology as a delivery method of a unified solution. In critiquing the current state of chatbot technology and conversational marketing, limitations are to be addressed and future recommendations discussed. In simple terms digital marketers currently crave improved user engagement, enhanced user experience, leverage of personalisation, and optimisation of automated marketing systems. This thesis offers the solution "why not have all of these via one catch-all strategy." The author hopes that the resulting body of work will provide insight to an unfamiliar technology and assist in companies' ability to decide upon how to incorporate artificial intelligence into their digital marketing strategies effectively, and at very least to highlight the abundant benefits to those who remain undecided at present.

Given the complexity of the thesis topic and the number of themes it aims to unite and offer insight to, a carefully chosen research question is essential to develop focus and clarity throughout the body of work. In observation of preferred research practices according to Saunders, Lewis & Thornhill (2012) this research question (RQ) is divided into sub-level investigative questions (IQs) each addressing a contributary facet of the overall RQ. The RQ and IQs are thus defined as:

RQ: How can chatbots be applied as conversational marketing tools to drive customer engagement?

IQ1: What is the current state of chatbot technology application in digital marketing?
IQ2: How does conversational marketing contribute to improved customer engagement?

IQ3: What benefits from personalisation of marketing communications can chatbots provide?

IQ4: How does the customer experience (CX) including user experience (UX) of chatbots contribute to engagement across digital platforms.

The overlay matrix provided as appendix 1 offers explanation to how the research is to be conducted and structured regarding the IQs and their associated sections of this body of work.

From the aforementioned RQ and associated IQs, it is possible to represent the desired attributes of chatbot application visually, in order to better understand their interaction and the multifaceted benefit of the technology for digital marketing (see figure 1). Marketers desire improved customer engagement, enhanced UX, and leverage of personalised marketing communications. Chatbot application is a strategy that may be deployed to facilitate in accomplishing all three objectives:
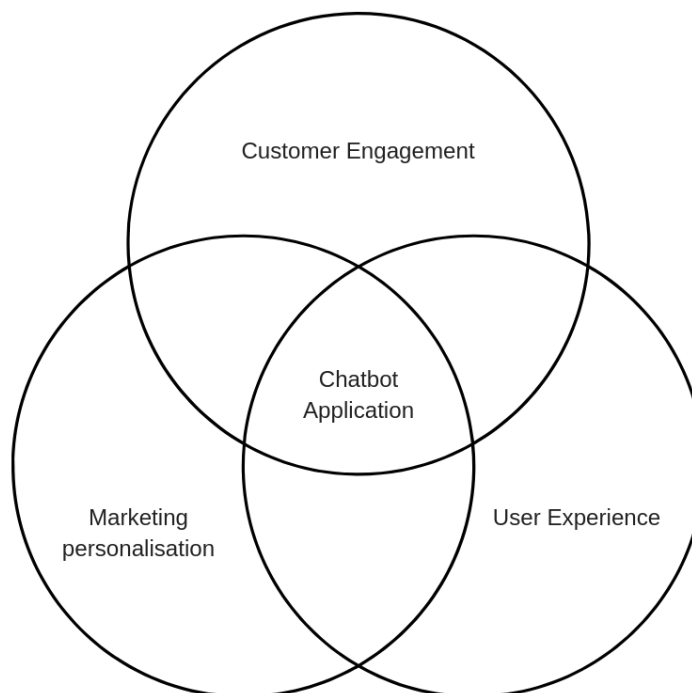

Figure 1. Visual interpretation if the interaction between engagement, personalisation, UX, and chatbot application

It is noted in figure 1 that the overlapping nature of the themes allows their consideration from theoretical viewpoint to be interwoven in examination of the greater objective of satisfying the RQ stated above.

1.2   Methods

A desktop research structure and approach are to be applied in order provide a commentary on the current state of artificial intelligence chatbot technology and its contribution to driving customer engagement. Qualitative thematic analysis of the interwoven themes will compare and contrast current theory, offering critique and insight towards the formulation of a more unified body of work that encapsulates a more comprehensive understanding of a several novel concepts. In the inception of this thesis, it was planned that interviews would take place and contribute towards the critique of theory with first-hand views. This method would have provided another source of valuable data, as the author made tentative arrangements with some key contributors whose authority on the subject of chatbots would have been appreciated. The author attended Heltech seminars on artificial intelligence with the goal of proposing interviews to some esteemed industry individuals. One such contributor was hoped to be Teemu Kinos, CEO and co-founder of Finnish chatbot technology firm GetJenny. Unfortunately interview schedule was not able to be finalised, though the author recognises the validity of interviews as a strong research source, particularly when leading experts in their field are able to offer their inputs.

1.3   Demarcation

The applications of AI in marketing are far reaching, and chatbots themselves offer companies the opportunity to develop many purposes on interaction. The new technology offers researchers like the author many interesting points to examine and critique with the hope of driving application of the technological platform forward. This thesis will be primarily concerned with website based, messenger style chatbots that may be used by website visitors in interaction with the company. The benefits of interaction are considered from the points of view of ecommerce, and customer service, and fostering relationships through enhancing customer engagement. Due to time restrictions in thesis writing, the deeper technical capabilities of chatbots will be briefly explained not be opened for discussion, nor the specifics of each type of chatbot platform, and machine learning algorithm available for use. Due to the novelty of the application of chatbot technology, only messenger-based applications using text command input are to be considered. Future applications may shift towards voice recognition input, however, the infancy of the technology makes meaningful research challenging at this stage. It should be noted that the principles of the chatbot application remain the same, irrespective of the platform or input method, therefore the scope of research is still relevant and applicable to developing technology.

1.4 Key concepts

Artificial intelligence (AI) is defined as computerised technology that is designed to collect and process information, possessing the ability to learn and apply continually developing logic and rationale similar to human intellect (Marr 2018).

Artificial intelligence marketing (AIM) involves the use of AI technology as a means of leveraging vast amounts of customer data acquired through interaction with the digital platform, processed using machine learning and applied in order to anticipate, predict, and respond to customer behaviour in a manner that mimics human to human interaction (Tjepkema 2018).

Chatbots are automated programs designed that utilise AI technology to engage in conversational interactions with human users of digital platforms including web-based input forms and instant messengers. The chatbot uses machine learning to evolve an ability to predict the users' behaviours and respond to input stimuli akin to human to human conversational exchanges. (Techopedia 2018.)

Marketing personalisation refers to the concept of companies' implementation of a strategy to deliver content and marketing communications specifically targeted to appear as individually customised to suit the preferences of a specific user or niche demographic. This is based on analysis of data often collected through interactive engagement with the user, and deployed through automated delivery methods. The purpose of this type of approach is to enhance customer engagement and build trust by appearing to understand the customer on a more intimate and personal level, and deliver content matched specifically to their interests as demonstrated by their historic preferences and interactions. (Manthei 2018.)

Customer experience (CX) is considered as all aspects of the customers' interaction with the company and encapsulates user experience as one of its constituents. Customer experience includes the customer perception of the sales process, branding, customer service levels, etc. The overall experience is considered to promote customers' likelihood of being retained as a long-term consumer, building loyalty and brand advocacy. (Lowden 2014.)

User experience (UX) is classified by prominent market leaders in research based UX Nielsen Norman group as involving every aspect of the end-user of a product or service

(Norman & Nielsen 2017). UX is considered all-encompassing and involves the way in which the end user experiences and perceives the interaction, including concepts such as ease of use, ergonomics, functionality, emotional response, and engagement. In this thesis both CX and UX will be discussed, however, it is important to note that UX is referred to as the way in which the customer perceives their interaction with the actual digital platform itself, and UX contributes to the overall CX which is the wider perception of the brand as a whole, of which the chatbot is one constituent element.

Customer engagement refers to the active relationship between brands and their customers, including the interactions that promote awareness, build loyalty, and encourage lasting relationships (Rouse 2017). This interaction is strategized by companies so that customers are continually "engaged" and a proactive dialogue between brand and consumer is maintained, so that the brand is at the forefront of the customers' mind in association with desired attributes aligned to the brand values and strategy.

Conversational marketing is a technique employed by companies to interact with their customers and target audiences. The approach is feedback focused, utilising the ability to collect vast amounts of customer data through interaction on digital platforms (Galetto 2017). The goal of conversational marketing is to mimic one to one interaction, seen for example in personal selling, and create an environment where the customer feels valued, loyalty is built, and a deeper understanding of the consumer on a more personal level can be achieved, which is leveraged in serving the customer according to their preferences as learned via the interactions. (Collins 2017.)

2 Chatbots as a means of driving customer engagement through enhanced customer experience and personalisation

Chatbots are capable of delivering many benefits when incorporated as an interactive marketing tool on digital platforms. In order to better understand these benefits in relation to the aforementioned research question and subsidiary investigative questions, the associated theoretical knowledge for each considered attribute is to be presented. The aim is for the research element to then cross examine chatbots' contributary role to each, assessing limitations and providing recommendations for how businesses can harness chatbots as a unified solution to enhance their digital user experience, deliver personalised content, and improve meaningful engagement with their users by incorporating conversational marketing applied with understanding customer behaviour.

This chapter initiates the inclusion of existing theoretical models and knowledge that will inform the empirical research direction of the thesis. The chapter aims to introduce the theories in an interwoven way that best serves to critique the current application of chatbots as drivers of customer engagement, interlinking the contributory factors of user experience, customer behaviour, conversational marketing theory. This approach has the objective of integrating the uses of chatbot technology and allowing for a more comprehensive understanding of the current scope, limitations, and future recommendations. Given the exploratory nature, and relatively novel usage of several of the concepts, a critical analysis of a wide range of sources is to be considered from which the direction for the empirical research will be understood.

2.1 Understanding chatbots and their current applications

Chatbot technology is very much *en vogue* in the 2018 digital marketing landscape. Novoseltseva (2018) reports that in the last five years, interest in chatbots has prompted Google Trends data to observe a nineteen-fold increase in associated searches. Coupled with the statement that 80% of companies either currently use, or plan to implement chatbots by 2020 (Raffath 2018) it seems clear that chatbots very much represent the present and future of AI marketing on digital platforms. This thesis aims to objectively examine the current state of the application of chatbots in order to identify means of capitalisation of the technology for enhanced customer engagement and user experience. Benefits are to be duly considered from the points of view of both companies, and their respective customers. In order to better understand the benefits of such a newly trending technology, the author will briefly explain some basic background of chatbots, however, it is assumed that those to whom this body of work holds the most significant value will already possess a

level of working knowledge of chatbots sufficient enough to render it unnecessary to explain the base level principles of chatbots and the technicalities of how they work in terms of software algorithm application. Therefore, the author makes a conscious decision to focus the thesis on the digital marketing values brought about by chatbot integration, rather than detailed critique of specific functionalities.

2.1.1 Common chatbot types

As chatbot technology has experienced advances in recent years, various versions of the application have become available, with varied levels of complexity depending on the intended use. In order to effectively leverage chatbots effectively, companies should fully understand their objectives, and select an appropriate model and integrate the platform effectively. Phillips (2018) writing for respected chatbot resource Chatbotsmagazine classifies 3 major chatbot types: Menu based, keyword recognition type, and contextual.

Menu based chatbots are described as the most simplistic. Phillips (2018) describes how these chatbots comprise mostly of hierarchical logic-based structure based on user input. They feature pre-programmed attributes that direct the user to the required information and are best served as guidance to frequently asked questions or sources of information that can be easily and clearly defined linguistically through decision tree type application of logic. Secondly, keyword recognition based chatbots are able to extend functionality by offering some context to the user input, and generate a more appropriate response. Finally context based chatbots, that utilise AI and machine learning to mimic human-like conversation offer the most sophisticated array of capabilities as they provide genuine dialogue based interactions that are data centric and offer the opportunity to learn about customer behaviour and preference, and in turn supply meaningful contextual outputs in a way that is difficult to distinguish from non-human conversational interaction. (Phillips 2018.) This thesis will largely consider these contextual based chatbots as they are complex enough to offer the most suitable range of functionalities associated with engagement-driving interactivity. It is however, important to note that in the decision making process of which type of chatbot technology to implement, companies must reflect upon their end users' objectives and demands in UX and strategically implement the correct type of chatbot technology to obtain the desired benefits without additional and unnecessary complication of technology, cost of integration and set up, or risking alienating users.

Chatbot technology pioneers and creators of powerful chatbot AI platform Watson, IBM concur with this categorisation of three main types of chatbot, however, Mason (2017) writing for IBM defines these as support chatbots, skills chatbots, and assistant chatbots. These share descriptive similarities and characteristics respectively of Phillips' (2018)

menu based, keyword based, and contextual chatbot types. Again, it is crucial to understand that different chatbot types offer various uses for online purposes, for example, a scripted, non-contextual chatbot may be very proficient in an ecommerce environment that encourages users to purchase more, and better personalised items given pre-defined and programmed attributes of all products in the system. However, a customer service chatbot may only be able to effectively improve UX and engagement if it is sufficiently able to understand context of the user input and apply learning from previous interactions to provide an answer that matches the input query. As it can be clearly observed, appraisal individually of the merits of each type of chatbot in terms of most usable environment would garner enough research material and cause for discussion to warrant an entire separate body of work For the purposes of this thesis the author makes the recommendation that it is assumed that companies wishing to integrate chatbot technology will perform their due diligence in arriving at the most appropriate solution for their desired function. It is however, assumed that contextual AI and machine learning capabilities offer the best scope for personalisation and engagement enhancement given their ability to mimic the more human elements of interactive conversation, and their data driven nature.

Touching upon UX at this juncture to interweave the associated theory, it is worth mentioning that users interacting with contextual AI chatbot may benefit from a more natural dialogue-based interaction, and the more sophisticated and personalised chatbot outputs, serving as a preferential user experience and more advanced driver of engagement.

2.1.2 Current chatbot benefits to companies

Establishing high quality and lasting communications between brands and their consumers has never been more important than at present. Companies aim to improve the lifetime value of customers through continued interaction, and with customer behaviour tending towards digital platforms and requiring on demand interactivity, companies aren't sufficiently staffed to serve the customer needs. (Kurilchik 2017, 15.) This is where the benefits of chatbot integration are observed, as companies are able to offer unlimited interactivity with customers and potential clients across digital platforms. Chatbots' abilities in mimicking human to human-like interaction provide companies with the means of better listening and understanding of their consumers' behaviours, needs and preferences, and also have a designated platform through which to supply these on demand, in a way that is not only natural in user experience terms, but also strategic, non-cynical, and offering mutual benefit. It was recently thought that social media platforms offered companies the most effective means of continuous engaged interaction with customers, however, as shown by figure 2 below, Saunders (2017) demonstrates that messenger applications, the very kind

which support chatbot functionality have overtaken social media networking applications in their usage figures:

Messaging Apps Have Surpassed Social Networks

Global monthly active users for the top 4 messaging apps and social networks, In millions
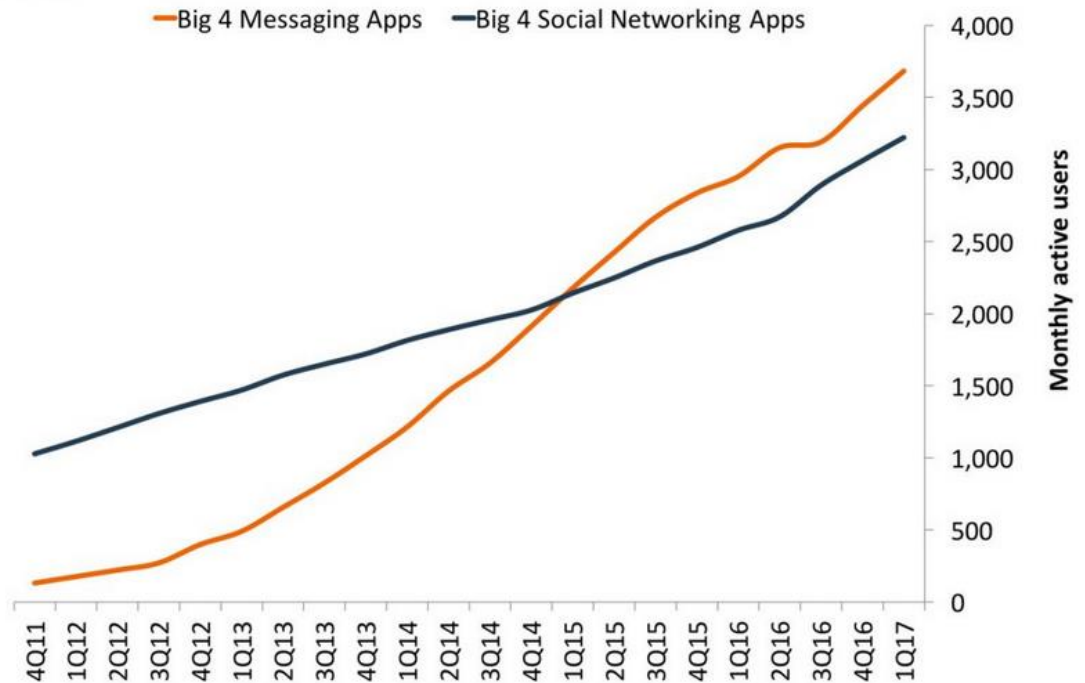
Figure 2: Messaging application usage compared to social networking application usage (Saunders 2017)

It can be seen from figure 2 that with messenger application usage overtaking social network application usage, there is a very demonstrable audience that constitutes a prime target for chatbot interactivity. Consumers already use these digital platforms in large numbers and at au fait with the concept of messenger interactivity. Coupled with the discovery that 65% of digital users do not download new applications on a monthly basis, rather stick with the core messenger apps of Facebook, Instagram, and Whatsapp, it can be seen that businesses have a readily available platform to integrate chatbot deployment that is widely used. (Saunders 2017.)

In addition to capitalisation on the trend of new digital platforms, Saunders (2017) continues to describe that chatbots offer further major benefits to businesses. These include the following positive attributes:

- 24/7 customer service capability
- Encouragement of active customer interaction
- Customer engagement increased

- Extensive data acquisition and insights
- Generation of leads that are able to be qualified and nurtured
- Cost effectiveness

Of these aforementioned qualities, perhaps the most significant deliverable of chatbot functionality is revealed, as it creates the whole basis on which the service is delivered, and provides the currency by which personalisation and engagement are driven: the acquisition of data. The interaction between customer and company through the digital platform allows a previously unprecedented amount of customer insight to be gained, and an in-depth knowledge of unique, individualised preferences and behaviours, which AI possesses the power to utilise.

With companies ever refining their strategies for engagement that builds lasting relationships with customers, it is imperative that businesses fully understand the audience with which they are interacting. This includes the necessity of creating digital platforms completely inclusive to all users. In consideration of the shift in generations, and a younger, more technologically and digitally savvy audience emerging, Artemova (2018) investigates how companies can seek the benefits of engaging with what is defined as Generation Z (those born in 2001 or later) and cites chatbots as a prominent source of potential to drive engagement. It is recognised that even at present, chatbots as digital marketing tools have been revolutionary in customer service experience provision, real-time communication and two-way interaction, and personalised communication (Artemova 2018). The findings conclude that chatbots are likely to become prerequisite in matching the digital demands of the new age of consumers, and offer companies the benefit of engaging with users in a way that meets expectations, offering enhanced capabilities in 24/7 customer service and personalised cross-selling based on data gathered through interaction as leading advantages (Artemova 2018, 96).

Whilst engaging with the new age of digital users is of vital importance, it is also essential that chatbots are inclusive and not prohibitive to less technologically capable users, or they cannot be said to universally enhance CX through improved UX. Saunders (2017) reports evidence in their appraisal of chatbots for technology website Digital Doughnit that sits comfortably alongside the findings of Artemova (2018). It is estimated that 83% of online shoppers require some form of assistance during purchases (Saunders 2017). Interestingly, it is the reported as the older generation of consumers that is more likely to require shopping assistance such as navigation or payment input help. This observation recognises that chatbots are not only tools of engagement for the younger generation to match their exacting expectations, but also necessary interactive assistants to the older

generation that allow them to complete transactions online (Saunders 2018). A resounding response from Live Person's Connecting with Consumers report cited by Charlton (2013) offers the statistic that 57% of respondents reported that they would like to be given assistance via live-chat, and that the key constituent elements to positive customer service experience online are getting the issue resolved quickly (82%) and resolving the issue in one single interaction (56%) (Charlton 2013). These statistics validate the consideration of chatbots' as strong choices of interactive customer service providers and engagement drivers. A further observation by Saunders (2017) is that customers that were engaged by such live chat techniques were reported to spend 20% to 40% more. Companies will seek not only the individual transactional benefit of close engaged interaction with customers, but the lasting loyalty and lifetime value promoted by continued interactivity and brand advocacy.

Boosted sales as a direct benefit is also cited by leading implementer of chatbot platforms, Facebook (2018). Whilst the author observes that Facebook is recognised as having a promotional bias in its report, it cannot be ignored that the evidence offered is compelling in the case of chatbots' usefulness to companies. Lego devised a chatbot that enabled online customers guided assistance through the vast catalogue of products, promoting UX. Personalisation was incorporated by the chatbot offering recommendations based on data collected on preferences and interests, mimicking personal cross-selling. (Facebook 2018). The specially designed chatbot allowed Lego to report a 71% reduction in cost per purchase and a 1.9% increase in value per order compared to their regular website ad click process.

Facebook (2018) also reports on the capabilities of chatbots in the case of Insurance company Allianz France. Customer experience was enhanced by allowing users to receive insurance quotes in exceptionally quick time. This use of chatbots was also identified by Swiss independent advisory company PcW (2017) in their research into chatbots for promoted user engagement. The findings observed impressive potential for chatbots when applied to banking, insurance, and online retail. One important highlight from the findings, however, is that customers surveyed in their readiness to fully embrace chatbots for insurance and banking related online interaction reported lower current readiness, estimated to be due to concerns over data and security, although experts predict that these fears are to be alleviated as the technology becomes more familiar (PcW 2017). Perhaps the leading light in highlighting the potential for companies in successful chatbot integration comes from Dutch airline KLM. Their AI customer service chatbot has been widely talked about in representing the brand's image and driven engagement successfully, with claims of a 40% increase in customer interactions due to the messenger chatbot (Facebook 2018).

Chatbots are widely used currently as a provider of customer service. Companies currently capitalise on the chatbot platform being available around the clock to handle simple customer queries online, but as the technology becomes more effective and contextual conversation is becoming applicable, companies are beginning to see the effect of chatbots on streamlining their customer services online and making considerable savings in reducing the number of human sales agents deployed. Many observers critiquing chatbots place the emphasis on their argument on the cost of applying the technology. It is noticed, however, from many respected sources that expectations actually point to significant long-term savings from the technology. Respected digital magazine Business Insider (2016) offers the following figure, highlighting the financial savings predicted as a result of chatbots:

Potential Annual US Salary Savings Created By Chatbots

■ Total Annual Salary Expenditure   ■ Potential Annual Savings

	Insurance Sales Representatives	Securities, Commodities, and Financial Services Representatives	Sales Representatives	Customer Service Representatives
Total Annual Salary Expenditure	$20	$32	$43	$79
Potential Annual Savings	$12	$15	$15	$23

Billions (USD)

Note: Estimates are calculated against the potential of bots replacing these positions: Insurance sales rep = 60%; Securities, commodities, and financial services rep = 46%; Sales rep = 36%; Customer service rep = 29%.
Source: McKinsey estimates, US Office of Personnel Management
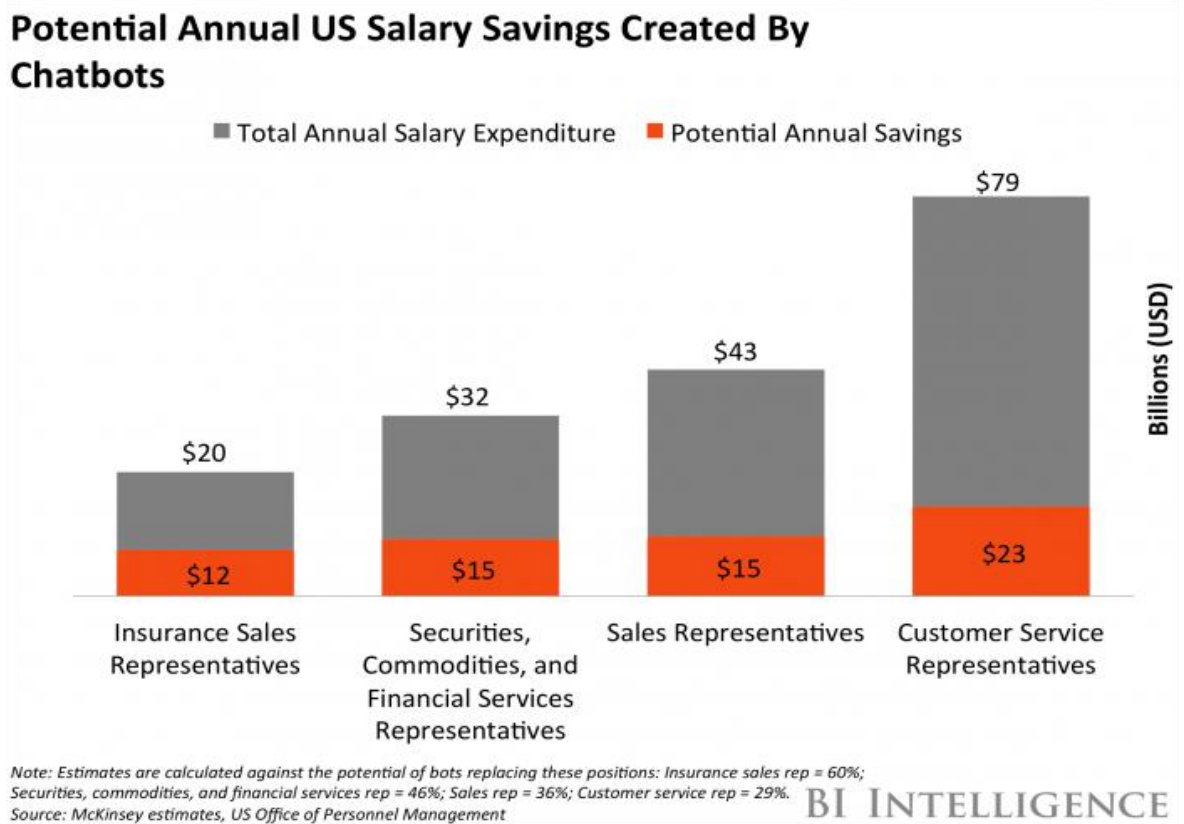
BI INTELLIGENCE

Figure 2: Predicted savings for businesses using chatbots (Business Insider 2016)

As seen in figure 2 above, Business Insider (2016) points to the potential of serious benefit to companies in the form of financial savings from salary costs, with the most significant gains made in the customer services sector. This is explained perhaps as presently, even simple chatbots are able to provide basic levels of online customer service. With full AI support and conversational marketing use, future counterparts will handle more sophisticated inquiries, allowing in a reduction in the number of human service agents employed. Sales representatives were the next most beneficial saving, reflecting how chatbots are

capable of producing the kinds of interaction that engages customers, stimulating purchases, and encouraging online expenditure, for example, providing personalised product recommendations, and applying personal selling techniques in cross-selling from a product range.

Business Insider (2016) was not the only source highlighting significant gains for companies. Independent market research coordinators Juniper Research (2018) concur that chatbots are to deliver companies significant savings, reported in their whitepaper on chatbots' place in the retail industry. It is presented that research estimates how sectors including banking, insurance, retail, and healthcare are set to experience savings from chatbots' replacement of service agents up to $11 billion by 2023 (Juniper Research 2018). This statistic represents an increase from the present estimate of $6 billion saved in 2018. Again, in agreement of aforementioned benefits to companies provided by chatbots, it is highlighted that the more significant offerings are replication of personal selling in online, digital form. Chatbots' ability to deliver personalised marketing, upsell products based on data gained through interaction, engage customers and encourage additional spend, and prevent online shopping basket abandonment are all considered as elements that contribute to the success of the technology, and areas where businesses gain most (Juniper Research 2018). The savings are also estimated come from the streamlined customer experience, with reduction in transaction times, fewer touchpoints, and replacing live service agents with chatbots. The research even offers the most viable solution as a Facebook Messenger bot, named Octane AI, further demonstrating how messenger application based chatbots offer genuinely large scope currently, and in line with future predictions (Juniper Research 2018).

Further elaboration on chatbot benefit to companies is made in the independent report prepared for Executive Exchange, on chatbot benefits, featuring thought leaders and customer management executives, compiled by Cantor (2017). The report claims that chatbots offer mutual benefit for company and consumer alike, empowering personalisation, productivity, and an enhanced experience, while simultaneously reducing costs (Cantor 2017). This assertion is supported statistically by Reddy (2017) writing for chatbot and conversational technology pioneer IBM. Citing faster query resolution times, improved response time, single interaction solution, and improved experience, chatbots are shown to offer substantial benefits to businesses (Reddy 2017). Conversational platforms are highlighted as being capable of offering a 30% reduction in customer service costs, 99% improvement in response time, and the ability to free up service agents for other, more demanding tasks, with the claim that by 2020, 85% of interactivity between company and consumer will be done via chatbots or digital platforms (Reddy 2017). The present-day

state of chatbot capability offers only a snapshot of estimated potential, however, it is noted that since these are predictions, companies should be wary of the sources of claims that chatbots are to singlehandedly revolutionise customer service and online experience. The key to unlocking the potential savings that are predicted appears to be in effectively harnessing the AI power to deliver conversational marketing sophisticated enough to replicate human interaction.

2.1.3   Current chatbot limitations

Having demonstrated some of the benefits chatbots can offer as a digital marketing tool, the challenges and limitations are now to be presented. These represent obstacles that may be prohibitive to businesses incorporating the technology, or areas which need improvement and refinement before the technology can be genuinely considered as a must-have driver of engagement.

One critical voice pointing to the limitations of chatbots also makes the bold assertion that chatbots have failed to live up to any of the claims offered when the technology first started to gain trending status (Asay 2018). Writing for technology website Tech Republic, Asay (2018) claims that the complexity of the development platform, overestimation of chatbots' abilities to replace or compete with mobile apps, and limitations in UX of text-based interactions are the fundamental reasons behind the failing of chatbots to catch on as mainstream brand and consumer interfaces. This sentiment is echoed by technology writer Lee (2018) writing for chatbot blog Growth Bot. It is claimed that out of the 100 000+ chatbots based on Facebook Messenger platform alone, up to 70% may be frequently failing to fulfil simple user requests. The reasons behind the failings are believed to be that presently, AI technology just isn't sufficiently capable or powerful enough to fully effectively perform what is known as natural language processing (NLP) which is the fundamental way in which the digital platform understands human inputs and drives the elements of conversation (Lee 2018). It is also reported that currently, humans still prefer to interact with other humans, and whilst chat based messenger services offer use in this form, users are able to tell the difference between human service agents and their AI-based counterparts. These claims are supported by the Drift report on current status of chatbots cited by Devaney (2018) as demonstrated in the figure below:

Potential Blockers to Using Chatbots

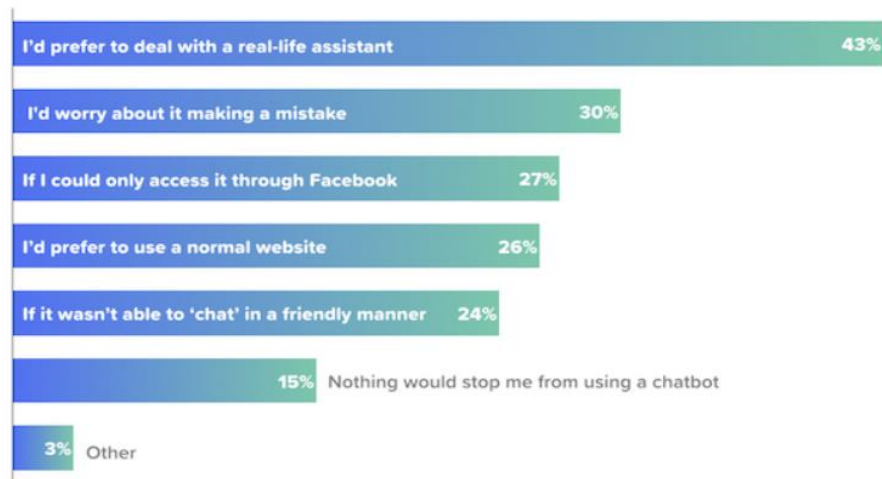*What would stop you from using a chatbot?*

Figure 3: Drift State of Chatbots Report, potential blockers to using chatbots (Devaney 2018)

It is observed that the majority of respondents to the survey question "what would stop you from using a chatbot?" reported preference of human to human interaction. The second most prominent prohibitive characteristic was fear that the technology would make mistakes. It appears therefore that there is a low amount of trust by consumers in the digital platform, which at present may present a barrier to the technology's capabilities of offering a universal platform for engagement enhancing interaction. Writing for technology website CXI today, Angus (2018) concurs that many users prefer human to human interaction, with a further issue emerging surrounding chatbot interaction; that of privacy and data protection. Interestingly, writing for Econsultancy, Gilliland (2018) reports that customer fears about data sharing may not be as strong, citing a survey by Sales Force in which 57% of 7000 surveyed respondents claimed they would readily give personal data in return for personalised online experiences.

One interesting reflection on the current state of chatbots is that there is clearly an ever-developing state of flux within the technology. As the AI power and usability are better understood, and as users become more familiar with the new means of interaction, chatbot functionality is moving forward. A case in point for this comes from the observations of one single writer, reflecting on chatbot viability over a period of less than a year, as evidence of the speed of progress in the technology. Preimesberger (2017) writing for digital technology platform eWeek observed at the time of writing in 2017 that there were many limitations in chatbots that were prohibitive to them fulfilling their potential as engagement

driving digital marketing tools. One such limitation was noted in that chatbots were in need of better AI power in order to truly capitalise on the possibilities in conversational marketing, as many chatbots in use lacked the ability to genuinely and conclusively identify intent from their human users, and thus were insufficiently capable of delivering the characteristics of natural conversation (Preimesberger 2017). This sentiment is contrasted shortly afterwards by the same author, noting that with significant investment from industry giants such as Google, Microsoft, and Facebook, chatbot technology had advanced more quickly than first appearances suggested (Preimesberger 2018). It is noted however, that evidence is still conflicting in the limitations of chatbots at present. 49 % of online shoppers are exhibiting greater spends and larger basket sizes in the presence of AI based chatbots providing interactive service, however, it is reported that 44% question the accuracy of information provided and 54% of surveyed respondents would rather converse with a human service agent (Preimesberger 2018). Whatever the current state of chatbots, one thing is certain, the technology is being heavily invested in and moving forwards quickly, suggesting that limitations of the present are very likely to be resolved in the very near future.

2.2 Conversational marketing

The feedback and data-oriented concept of conversational marketing is very much at the forefront of current hot topics in digital marketing. Peart (2017) writing for Forbes likens the potential shift that conversational marketing has the potential to usher in as akin to the revolution the internet created for marketing, or that of the rise of mobile applications. With AI capabilities becoming clear, and data-driven marketing set for next level usability when harnessed alongside considered UX and personalisation of communication, conversational marketing is set to allow marketers to replicate personal selling, and human to human-like interaction to develop relationships with customers through interactive engagement like at no other time in digital marketing's history.

Chatbots presently account for a large volume of online customer service facilitators, and this trend is set to continue, with the prediction that within the next few years, virtual assistants (one useful type of chatbots) will handle almost all online customer service questions (Peart 2017). Customer service user experiences only account for one portion of the usability of chatbot technology, and only one benefit of conversational marketing. Peart (2017) concludes that conversational marketing in the form of chatbots will become the primary engagement driver and encapsulate the face of the brand, and serve as a supplier of almost unlimited usable customer data for personalised content targeting and consumer behaviour understanding. Companies benefit from data capture in a more natural and or-

ganic environment, far less cynical than the commonly used data capture forms and sur-
vey that customers may be reluctant to complete accurately. Chatbots for conversational
marketing collect massively personalised and usable data almost by stealth, as emphasis
from the customer point of view is shifted to the engagement enhancement and user ex-
perience satisfaction while interacting in an enjoyable way with brands. Recent obsession
with data-driven marketing moved focus away from being customer-centric, and has led to
the deterioration of engaging user experience in favour of cold and impersonal data-led,
statistic-based communication. Chatbots and conversational marketing represents a
means of shifting focus back to customer engagement and satisfaction, without sacrificing
the quality of acquired data. In fact, the data supplied through chatbot interaction is done
so more wilfully, is more personal, and more insightful from the point of view of marketing.
(Devaney 2018.)

In order to better understand conversational marketing, exploration of its components is
beneficial. Devaney (2018) writing for respected conversational marketing pioneers Drift
Group, summarises the constituent features of conversational marketing in the figure be-
low:
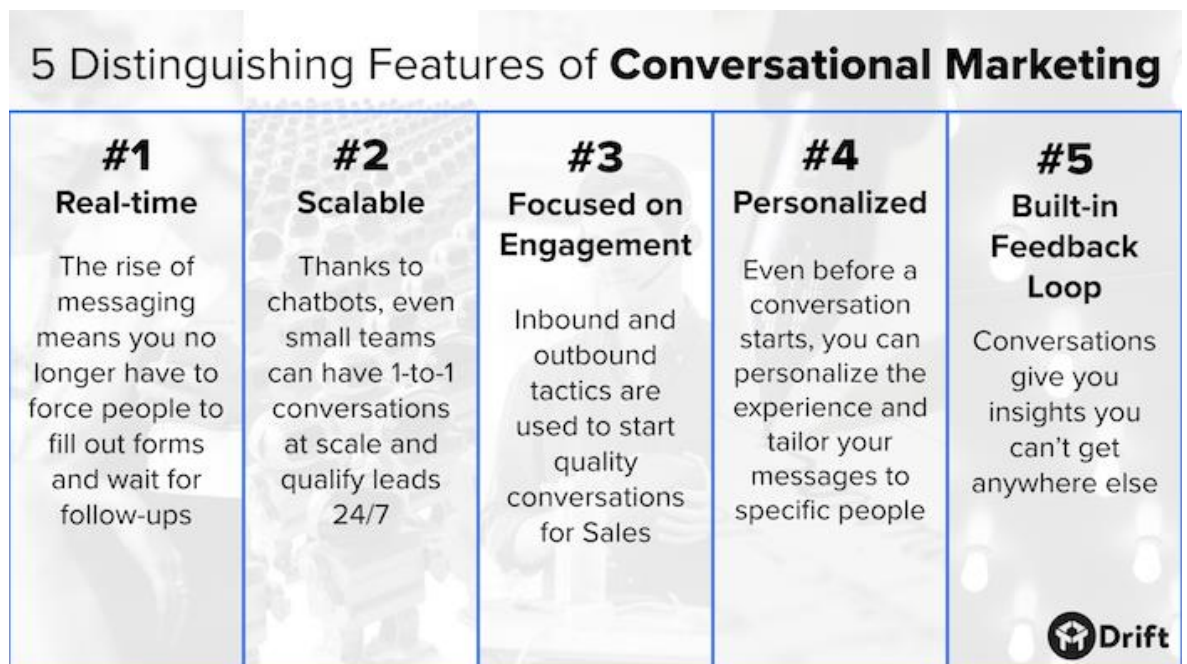
Figure 4: Constituent elements of conversational marketing (Devaney 2018)

As seen above in figure 3, the key features of conversational marketing incorporate en-
gagement and personalisation, two of the interwoven themes of this thesis. Chatbots are
used to shorten customer journeys whether in being directed to information in a customer
service nature, or being assisted with purchases as lead conversion. This constitutes an
enhancement in user experience, incorporating the chatbot's data acquisition capabilities

to learn about consumers on a personal level. Devaney's (2018) summary concludes that chatbots and conversational marketing do indeed possess the requisite capabilities in driving customer engagement through improved user experience and personalisation of communication.

In terms of interlinking conversational marketing with improved user experience, the real-time capability of the digital platform is key. Chatbots interaction occurs in the moment, as and when the customer demands the information. In a world of mobile application usage, this is key to securing, engaging with, and converting leads 24/7. Galetto (2017) concurs with this assessment that the ability to act in real time with customers is imperative to successful conversational marketing. Collins (2018) writing for Hubspot takes this assertion further, coining the phrase that conversational marketing operates in "customer-time." This is a clear example of emphasis shifting to customer experience and urgent satisfaction of needs. This is further elaborated upon with the assertion by Collins (2018) that the chatbot must allow the customer to renew their interactivity from where they left. The AI and machine learning capabilities of the digital platform come into play at this point, in recognising and remembering customers personally. Nwokike (2018) adds that customers able to converse in real time are significantly more likely to be converted than those referred to contact pages or engaging in the exchange of multiple emails to get the answers they seek. This streamlined approach to user experience shortens the customer journey while delivering a satisfying online experience.

Scalability of chatbots for conversational marketing is another constituent with significant benefit. This sentiment is agreed upon by Devaney (2018) and Collins (2017). Whilst both agree that there is nothing like the quality of one to one, human to human interaction to boost engagement, user needs acquisition, and service delivery, this approach is simply not scalable. To simultaneously interact with 100 potential customers in engagement enhancing, personalised conversations would require 100 company agents around the clock. Chatbots allow simultaneous interaction with almost limitless customers, engaging in personalised communication in real time to satisfy any need. Devaney (2018) observes that with chatbots, a single marketing agent is able to greet and engage thousands of users simultaneously, then direct individuals to personalised content based on data acquisition and learning, to qualify all leads at once.

Conversational marketing also lends itself to the engagement-centred element under examination in this thesis. Devaney (2018) asserts that whereas past techniques involved a passive approach to lead generation and conversion, conversational marketing performs this process while actively engaging the customer. Burnam (2018) supports this claim,

writing for marketing platform New Breed, adding that personalisation of chatbots allows engagement that encapsulates the brand's vision and image throughout all interactions. These are the kinds of engagements that forge relationships and develop loyalty. Medlar (2018) writes that user engagement through conversational marketing works in parallel with personalisation of communication. Medlar (2018) continues to quantify the benefits of conversational marketing with the report that medical spa company Skinology recorded a 15% revenue increase only 100 days after implementation of a conversational marketing strategy focused on raising engagement through user experience improvement and personalisation. Devaney (2018) observes a similarly successful strategy with Drift Group, noting a 15% increase in lead generation through deployment of conversational marketing chatbots.

Conversational marketing at its core is comparable to the engagement driving technique of personal selling that was employed previously. This requires the chatbot to be actively capable of replicating the qualities of human conversation, capitalise on persuasion, provide context, take cues from inferences, and utilise logic. All of these capabilities are presently only demonstrated by the most sophisticated of chatbot platforms. Duijst (2017, 3) in the paper assessing chatbot user experience viability through personalisation reflects upon the conversational prerequisites, placing natural language processing research (Quarteroni & Manandhar 2009) in a chatbot context. The following attributes were discussed as architects of the type of conversation that is necessary to drive engagement:

- Use of context to appropriately act upon the users input and inference
- Inclusion of context of previous conversation to shape future ones
- User ability to drive progressive purpose-led conversation
- Feedback looping to encourage the user inputs to move towards a goal
- Ability to facilitate natural, smooth transitional conversation through variety of outputs, prompts, and stimuli

These features are the responsibility of the AI and machine learning interface, and may sound rather daunting to a software developer, but are almost essential components to the algorithm of the chatbot if true 2-way meaningful conversation is to be contextually possible that allows the user to experience engagement, connectivity, and achieve a purpose (Duijst 2017).

2.3   Personalisation of marketing communications

In present day marketing and sales activities, personalisation of interaction and communication is considered to be of vital significance. Moth (2013) writing for respected marketing

blog Econsultancy, reported that 94% of businesses rate personalisation at a critical success component, while The Financial Brand (2017) ranked personalisation in the top three significant marketing trends of the year. Personalisation itself has been highly linked to customer experience. Grunberg (2017) writing for marketing blog Sailthru, notes that personalised used experiences are more engaging, and more likely to promote continued, loyal interactions that enhance the customer lifetime value.

In order to personalise interaction and communication effectively, it is necessary to understand the customer more deeply, have comprehension of their needs, tastes, and predict their behaviours in a way that builds trust, and mutual value. Bhargava (2016) writing for Exitbee, reports the statistic that around 50% of marketers rate deeper understanding of their customer as key future focus. The interaction required to gain and utilise this understanding is exceptionally time consuming and costly for companies. Despite myriad of benefits companies observe from increasing their personalisation across customer touchpoints, businesses cite lack of internal resources, and lack of technology as barriers to their personalisation efforts (Bhargava 2017). Understanding of customers' needs has been traditionally acquired through human to human interactive engagements such as personal selling. If chatbots can be conclusively proven to be an effective means of replicating this type of interaction, capitalising of the exchange as a means of acquisition of usable data on customer needs and preferences, while also simultaneously engaging the customer digitally, guiding their sales journey, and enhancing their UX on digital platforms, personalisation of content delivered can be added to the already extensive list of benefits of incorporating chatbots to companies' digital platforms.

Bhargava (2017) describes personalisation of communications "one-to-one" marketing. This phrase exhibits personalisation as a concept completely synonymous with chatbot implication, whose very inception is to replicate human to human, one-to-one interaction convincingly and autonomously. The act of leveraging acquired data through meaningful engagement to deliver loyalty building brand advocacy is at the forefront of the benefits of personalisation, with chatbots the medium of interaction, able to collect, process, and act upon unimaginable amounts of data in almost real time. The figure below depicted by Bhargava (2017) reveals 4 major benefits to incorporation of a strategy to personalise marketing communications:

THE FOUR Rs OF PERSONALIZATION
When done correctly, personalized services can improve an insurer's ability to:

RECOGNIZE
Know customer's and prospects' profiles, including demographics, geography, and expressed or shared interests.

REMEMBER
Recall customers' history, especially how they act as expressed by what they browse and buy.

REACH
Deliver the right promotion, content, risk management service or suggested advice for a customer based on actions, preferences and interests.

RELEVANCE
Deliver personalization within the context of the digital experience based on who customers are, where they are located and/or what time of the year it is.

Figure 5: The Four Rs of Personalisation. (Bhargava 2017)

The demonstrated benefits of the figure are all facets that may be readily delivered upon by chatbot deployment. Recognition of customers on an individual bases is possible on digital platforms of chatbot interaction. Log-in accounts and their associated data supplement the ability of the chatbot ability to interactively explore customer insights. Remembrance of individual customers due to their digital footprint is also facilitated through this profiling. Depending on the digital platform in use, this may be restricted by explicit consent and privacy-based limitations applied to the I.P. address and the network settings on the connection where interaction takes place. This is prohibitive to website based chatbots without log-in and personal customer accounts, however, application-based messenger services on devices where the customer is continually logged in experience no such restriction. Reaching the customer with the correct promotion is handled by the specifics of the chatbot algorithm. This thesis will not explore the hierarchy of the digital technology, or the linguistic triggers and natural language processing (NLP) involved in the interaction, however, it is worth mentioning that NLP plays an important role in the machine learning component of the chatbot, which allows its adaptive and predictive capabilities that best imitate human-like interaction. Secondly, the similarly initialled natural language processing is an incorporated technique that capitalised on customer behaviour and psychological factors in language use that the chatbot will possess as key characteristics that define its abilities to interact effectively. These details serve as a timely reminder of the complexity technology of chatbots and the myriad viewpoints they can be explored from in terms of customer engagement.

The assertions of Bhargava (2017) are echoed and elaborated upon by Manthei (2018) writing for Emarsys, one of the largest and most widely trusted global digital marketing platforms. There is agreement that personalisation of marketing has at its core the capture

of data from customer input, analysis of the data, and selective distribution of matched communication to each customer, delivered through a means of automated technology (Manthei 2018). Manthei (2018) asserts that personalisation in marketing has the express purposes of enhancing customer engagement, and delivering better user experiences, observing that customers expect and demand more personalised communication in their buying journey than at any other time, and failure to personalise content appropriately provokes customers to feel disengaged. This sentiment is upheld by Bhargava's (2017) claim that 70% of customers reported feeling frustrated when communications felt generic and unpersonalised, representing the companies' failure to understand their needs. This type of disengaged customer is unlikely to be nurtured through the sales process and even less likely to foster a loyal relationship with the company in question and advocate its values to others. Another interesting theme agreed upon by these two respected sources, Bhargava (2017) and Manthei (2018) is one that perhaps best represents a concrete example of opportunity for chatbots as a facilitator to marketing personalisation. Bhargava (2017) reports findings that approximately 50% of marketers claimed to have insufficient means of gaining insight to their customers. Manthei (2018) highlights how the largest barriers to effective marketing personalisation are seen in lack of understanding of suitable technologies to capture useful data, analyse this quickly and efficiently, and distribute content rapidly on suitable digital channels. Saville (2018) reinforces this point further in a white paper created for Experian marketing services, finding that 37% of surveyed marketing professionals globally felt technology to be the most prohibitive barrier to effective personalisation. A further challenge presented is that of requiring a unified platform for the data capture, analysis and delivery of content; one which singular customer persona assigned to each case for optimal efficacy (Manthei (2017). Chatbots are capable of responding to each of these challenges, as a cure-all solution, demonstrating their viability as a leading marketing personalisation driver.

To further demonstrate the interwoven effects surrounding the themes of this thesis, Moth (2013) describes how a majority of 65% of surveyed marketing agents believed improved user experience to be leading force behind the necessity to personalise communications. Pitt (2017) further supports this assertion with the addition of chatbot critique in his claim that personalisation is the key to successful UX in conversational marketing. Chatbots are proposed as a means of providing conversational marketing engagement, however, it is asserted that developers have missed an important consideration in the design and implementation of chatbots for enhanced UX: that of personalisation. This supports the direction of this thesis in its demonstration that chatbots, personalisation, and UX must be used as a synergistic force when making effort to enhance customer engagement. Pitt (2017) presents a novel role of personalisation that is unexplored by the majority of other bodies

of work. Many focus on personalisation as a facilitator to customer engagement by showing that the customer needs are understood. Pitt (2017) however, proposes that personalisation doesn't just drive engagement directly, but contributes to the user experience through the very currency of the interaction: natural, human-like conversation. Engagement is not only brought about by the content delivery matching customer preference and interests, but also through the experience of the digital platform. This observation is critical to the definition of chatbots as a means of providing a unified solution to the identified problem, as the conversational marketing delivers an improved user experience. Personalisation of the conversational marketing process allows the interaction to raise engagement by remembering customers based on their behaviours and digital footprints. This has the lasting effect of loyalty building as, like in human-to-human interaction, the digital platform remembers and acts accordingly through AI machine learning. Pitt (2017) reiterates the importance of personalisation's contribution to UX in conversational marketing with the following summarised points:

- User is spared of performing repetitive tasks
- Customer conversion process is expedited
- Number of interactions per session is diminished, reducing process friction
- Cross-selling of similar products is enabled based on learning of preferences
- Overall engagement is improved
- Loyalty is encouraged based on the digital "rapport" built up with the interaction

In terms of specific chatbot necessary deliverables to enhance engagement using personalisation and UX as contributors, it is observed that the ability to identify and remember previous interactions is absolutely imperative in driving lasting engagement and promoting long term loyalty. This may be prohibitive to some types of chatbot technology, and may also provide a challenge to companies in chatbot technology adoption, as it signals that only the most sophisticated chatbot platforms possess the abilities to enhance engagement fully through personalisation and UX.

2.4 Customer experience

Customer experience or CX is seen as imperative in today's digitally centred consumer climate. Companies strive for users to foster long term relationships, increase the lifetime value of customers whilst shortening their journey from lead generation to conversion, simultaneously gaining advocacy and loyalty. With digital and mobile presence a key constituent of companies' presence in consumers lives, digital interaction provides focal point of engagement and interaction between company and consumer. It is across the digital medium that companies communicate their value, and customers respond with their pa-

tronship and brand support. Moores (2017) observes that a majority of companies reported customer experience as the most exciting opportunity to capitalise upon into 2018, even ahead of the perennially highly featured concept of personalisation. Continuing to note that by 2020, 85% of customer interactions are expected to take place via digital automation and AI platforms, it is of clear vital importance that companies devote due care and attention to the user experience of their digital interfaces. With 80% of customers reporting that they would pay more for enhanced experience, the benefit to companies in optimising CX is abundantly clear. (Moores 2018.)

It is worthwhile at this point to make the distinction between customer experience (CX) and user experience (UX). The distinction may seem a triviality, but the nomenclature of the terms is important from the point of view of understanding the contributory role of the chatbot, particularly since it is a relatively novel and technically dependant component of a potentially already complex digital platform. Considered UX is a necessary part of the chatbot design and implementation, and refers to how the customer perceives their interaction with the digital platform itself. This process is readily quantifiable digitally, with metrics including success or abandonment rates in the sales journey, time taken to complete a task or reach the desired information, and number of click required to do so. (Lowden 2014.) This sentiment is echoed by Cao (2018) in that UX is referential to the digital interaction as the customer experiences the software, the visual impact, usability, ergonomics, and functionality, with a positive UX defined as one that efficiently solves the users' problem or allows them to complete the required tasks without complication. Of course, the smoothness and associated satisfaction of this process contributes to the wider concept of customer experience or CX. It should be considered that CX is an umbrella concept, under which UX resides, however, both are essential to the successful deployment of chatbots if user engagement is to be promoted. A user experiencing negative UX or CX interactions becomes disengaged, and unlikely to become a converted lead or develop advocacy for the brand. In fact, Moores (2017) reports that 91% of disengaged customers are unlikely to make future purchases. In this case, the chatbot is a primary driver of engagement, but must do so with a CX and UX that is universally positive. An appropriate visualisation inf the connectivity of CX and UX is devised in figure 5 below:

CX
UX

Customer service
Advertising
Brand reputation
Sales process
Pricing fairness
Product delivery

Usability
Interaction Design
Visual Design
Information Architecture
Content Strategy
User Research
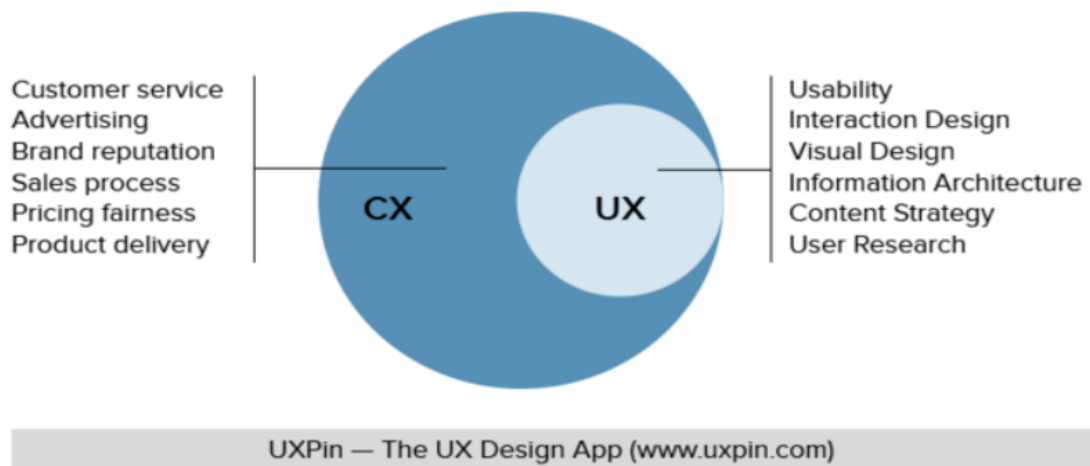
UXPin — The UX Design App (www.uxpin.com)

Figure 6: Visualisation of the relationship between CX and UX (Cao 2018)

The above figure readily demonstrates that CX is the all-encompassing concept of the experience of the user as a whole, of which UX is a contributory factor more specifically concerned with the perception of interactivity with the digital interface.

In terms of UX, a positive experience is considered as one which allows the customer to navigate the digital platform efficiently, find the required information easily, and seamlessly interact without technical disruption. This contributes to a favourable CX in that the customer perceives the interaction with the brand as positive, enjoyable, rewarding, engaging, and suitably personalised (Lowden 2014). Eaton (2018) describes the importance of the user interface in creating positive UX on digital platforms, and how key elements of the interaction are that the experience needs to be valuable, accessible, intentional, and intuitive. These factors promote a positive experience that enables the customer to utilise the platform effectively, raising their engagement with the brand. Devaney's (2018) industry report on the state of chatbots for technology platform pioneer Drift, highlights the following problems in traditional UX with digital platforms, demonstrated graphically below in figure 6:

Problems With Traditional Online Experiences

What frustrations have you experienced in the past month?
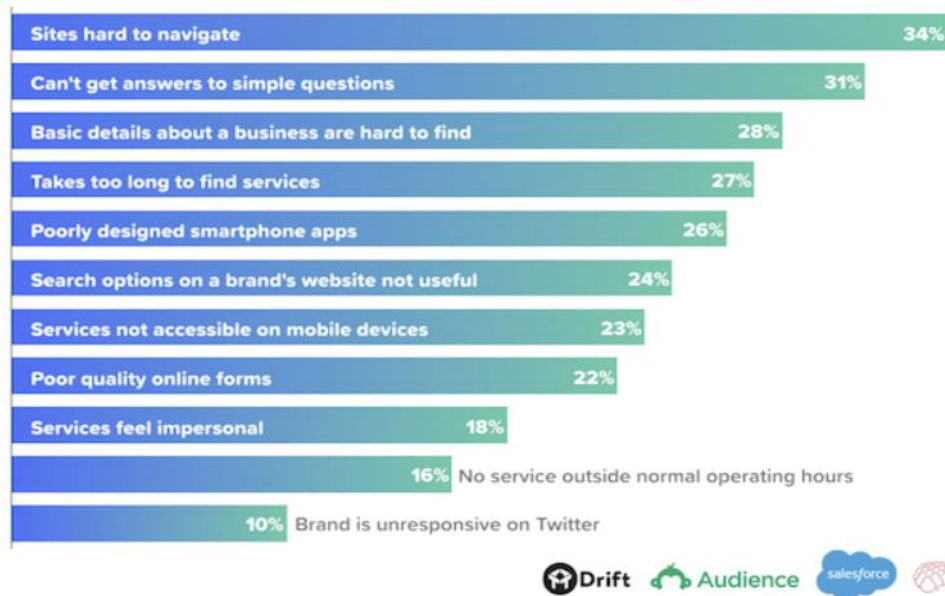

Figure 7: Drift Report on state of chatbots 2018, problems with online experiences (Devaney 2018)

Figure 6 is of particular significance to considerations of UX of chatbots to improve customer engagement, as it reveals the common problems that customers perceive in their UX digitally. The data is compiled from a survey of over 1000 users, purposed with providing industry insights for chatbot opportunity. Through examination of the figure it is observed that many of the negative aspects were reported by significant percentages of users. It is revealed that a large proportion of customers are not having their UX expectations met in their digital interactions with companies, which contributes to a negative CX, which in turn prohibits customer engagement, jeopardising long term loyalty and brand value. Digital platforms are expected to be quick, efficient, and reliable in allowing the customer to source information effectively. Many users become frustrated and disengaged when this is not the case, due to poor UX (Devaney 2018). Another key observation made in consideration of the 2018 State of Chatbots Report, (Devaney 2018) with respect to currently identified problems with UX, is that almost every one of the identified challenges and frustrations recorded by surveyed users is something that can be directly addressed by effective integration of chatbots on the digital platform. The capabilities of chatbots can readily improve almost every aspect of UX highlighted as frustrating. The figure below offers insight to this from the same survey of over 1000 users comprising the industry report (Devaney 2018):

Potential Benefits of Chatbots

If chatbots were available (and working effectively) for the online services that you use, which of these benefits would you expect to enjoy?

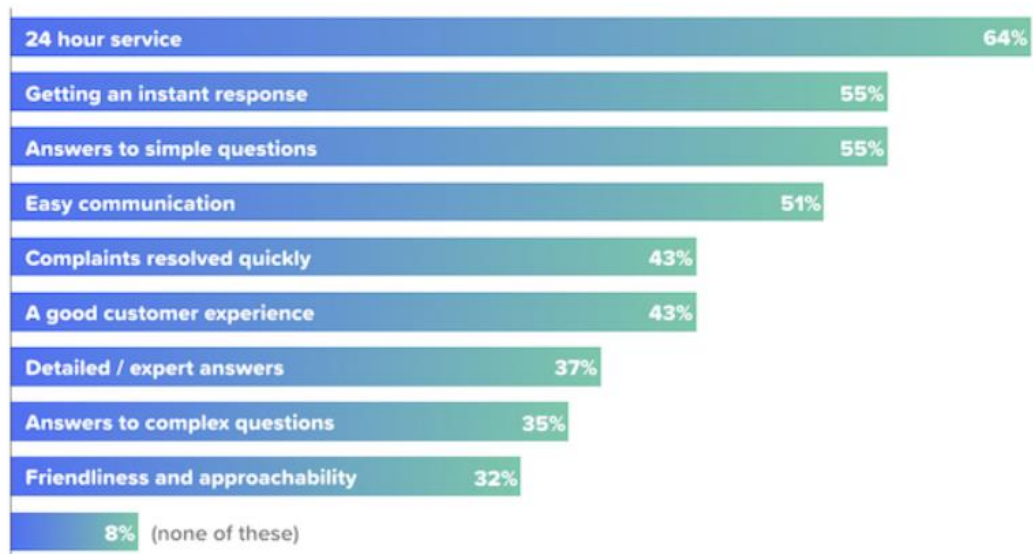|	
24 hour service	64%
Getting an instant response	55%
Answers to simple questions	55%
Easy communication	51%
Complaints resolved quickly	43%
A good customer experience	43%
Detailed / expert answers	37%
Answers to complex questions	35%
Friendliness and approachability	32%
(none of these)	8%

Figure 8: Drift report on State of Chatbots 2018, potential benefits (Devaney 2018)

The above figure demonstrates responses of surveyed users in their assertion that chatbots would be able to actively improve their UX in areas that correlate with the identified frustrations highlighted in figure 5. This promotes chatbots as a potentially favourable addition to UX and contributor towards improves CX, and enhanced customer engagement. The author would like to provide one caveat at this stage, in the promotion of reliability and respectability of this thesis as a body of research. It is duly noted that Drift represents company considered pioneers in chatbot technology, and therefore are a respectable voice of the industry. However, it is also observed that they operate with an objective of promotion of the technology I question, rather than an impartial industry observer or scientific body of evidence. Their industry survey reported by Devaney (2018) holds credibility in being an independent survey of users, however more robust challenge and critical analysis from a range of sources is preferred by the author and is to be duly presented. It is worthy of mention that in support of the Drift survey and its reliability, the respondents to the survey were sampled to reflect a balance of users aged from 18 to 64 years old, with equal gender representation (Devaney 2018).

The proposal of chatbots as a solution to improved UX and in turn CX is supported by Moores (2018), in her blog for marketing company Marketo. Chatbots are presented as a cost-effective means of enhancing customer service, contributing to the CX side, whilst

simultaneously being accessible 24/7, intuitive to use, and accomplishing real time response rates. This also matches with Eaton's (2018) criteria for successful UX in digital interfaces. A further benefit to chatbots to facilitate CX is their status as omni-channel status (Chatbot News Daily 2017). This means that chatbots and the data they acquire seamlessly integrate across multiple digital platforms and channels of interaction with customers. For example, a chatbot is able to recognise an individual user on a web page, mobile app, messenger service, and social media account, and utilise data acquired through previous interaction to shape the communication to appropriately raise CX while delivering upon improved UX as standard. Respected industry source Chatbot News Daily (2017) cites this omni-channel presence as an instrumental feature of chatbots as a digital platform. Pitt (2018) writing for technology blog Vertical Leap supports this assertion, reporting that a single chatbot is capable of integrating with almost any digital platform. This is of vital significance in light of statistics compiled and presented by Kulbyte (2018) in their blog for globally used CRM software provider Super Office, in an entry considering customer experience. Kulbyte (2018) reports findings from market intelligence suppliers Aberdeen Group that customer engagement is strongest and leads to retention rates of around 89% when omni-channel integration contributes to positive customer experience. This statistic is provided in conjunction with the observation made by management consultancy professionals Accenture, presented by Kulbyte (2018) that customers crave consistency in communication. 87% of surveyed respondents were found to be demanding more form their interactions with brands in terms of consistency, and 89% reporting frustration at having to repeat inputs across different channels. This is a UX component that chatbots readily solve through their onmi-channel integration, where the machine learning and data acquired through interaction is remembered and utilized by the chatbot in every channel in which it encounters each individual user.

The role of improved CX in the promotion of customer engagement is of interest in this thesis, as the body of work interlinks common themes associated with chatbots as engagement drivers. The purpose of enhancing CX on digital platforms involves the optimisation of the customer journey, with chatbots able to contribute towards this optimisation in many ways. Technology blog Core DNA (2018) concurs with the findings presented by Devaney (2018) presented in the Drift report, whilst providing additional perspectives on chatbot contribution to UX.

2.5 Customer engagement

Customer engagement refers to the level of emotional connectivity experienced between companies and their customers. Those experiencing high levels of engagement are reported to be more loyal, make more frequent purchases, and demonstrate increased

brand advocacy. (Clarabridge 2018.) Businesses strive to raise the level of engagement customers experience, reaching out on today's media of choice, the digital and mobile platform. Solomon (2015) writing for Forbes describes engagement as the direct route to each objective companies aim to achieve, and that with engagement comes purchases, loyalty that improves customer lifetime value, and advocacy that promotes the brand to others, spreading a message of positivity. Harmeling, Moffett, Arnold, & Carlson (2016) contribute to the Academy of Marketing Science with their paper focused on new theories of customer engagement marketing with the definition of the concept as a deliberate measure to empower and provide motivation to interact, during which the customers' activities are monitored and acted upon in a manner that provides towards future transactions and further engagement (Harmeling et al. 2016).

The depth and scope for research on the topic of customer engagement alone is demonstrated in the work of Harmeling et al. (2016) as the psychological and behavioural effects of customer interaction with brands is considered. The author of this thesis initially wished to include a behavioural research element with an empirical test platform of a chatbot interaction with participants, however, the depth of this would be way beyond the scope of bachelors' thesis work, and represents a further avenue of research possibility that is merely informed by the insights of this body of work as a foundation. The mechanism of engagement, however, is of crucial significance here, as it offers explanation to how chatbots are able to provide benefit with the integration of conversational marketing, in regard to the identified investigative question IQ2. This recognised means of interactivity between brand and consumer has at its core the element of active participation conducive to conversational marketing, and 2-way communication, fundamental to the act of increasing engagement. A passive approach where the customer is not partaking in an active and involved role is considered as less effective at fostering engagement. The necessity of active inclusion and interactivity is highlighted by Harmeling et al. (2016) in their assertion, supported by behavioural and psychological citations that customers "choose to invest resources in brand interactions". From a fundamental psychological standpoint, this is significant is demonstrating that the cognitive element of inclusion that is achieved via 2-way interaction and active participation of which the chatbot conversational marketing platform is the provider, is the driver of engagement through involvement, satisfaction, (interlinked by being a CX and UX component) loyalty, brand support, and commitment. (Harmeling et al. 2016.) This revelation provides us with the evidence that chatbots are more than capable of readily promoting engagement, and supports the aforementioned claims that they do so on a multifaceted level, one which is founded in behavioural and psychological principles. This also presents the possibility for research in the avenue of behavioural analysis in response to the lexical stimulus of the chatbot platform, as it reveals that chatbots are

also evidentially capable of modifying consumer behaviour in the same way that the traditional sales person involved in personal selling takes advantage of in human to human interaction. This, however, is beyond the scope of this research, which is satisfied purely by the assertion that chatbots do indeed represent an opportunity to raise engagement. The suggestion is that the mechanism of chatbots driving engagement operates by prompting the customers' voluntary desire to interact. This is crucial to the supplementary functions of the chatbot usage, as it allows the channel for the customer to actively provide the data which the platform used to deliver the personalisation and customer experience elements of the multi-faceted engagement enhancing solution.

The interactivity component represents a shift in marketing functions to an inclusive, customer driven ideology, which facilitates in company relationship building as promoting the consumer as an active proponent in the marketing process means they are less likely to be cynical or harbour any negativity. This allows brands to enhance the positivity of their messages through the improved customer experience delivered. The interlinked nature of the themes explored by this thesis is again highlighted as it is observed that CX contributes towards engagement, and vice versa. Harmeling et al. (2016) elaborate on this further, citing research by Kozinets, De Valck, Wojnicki, & Wilner (2010) that the imperative element of driving the engagement is task-based, requiring customer investment in the process. This would seem to agree with fundamental approaches to customer behavioural marketing with respect to task versus reward-based interaction. An explanation and further validation to the claim that chatbots do indeed promote engagement is therefore offered as chatbots facilitate rewarding the customer with personalised content and improved customer experience, in return for active participation in the process. This also allows the bypass of negativity associated with present day feeling that the customer is always being spied on and stealthily advertised too, as the consumer is more accepting of the process of which they are an active protagonist. Perhaps the most convincing reinforcement from the research of Harmeling et al. (2016) is the conclusion drawn that customer engagement is most readily achieved when the company is able to leverage customer-owned resources, and the customer is actively encouraged to contribute these to the company. This directly applies to the acquisition of data in terms of needs, and preferences that is supplied voluntarily by the customer during interactivity with the chatbot platform. The final recommendation is made that organisations ought to invest in technologies that enable this form of customer participation and contribution. (Harmeling et al. 2016.)

Customer engagement driven by chatbots is also explored by Katkute (2017) in research into the possibility of generation user engagement by design, with chatbots as the mecha-

nism employed. This exploration finds user engagement as one of the most vital contributors towards the success of chatbots; the ability of the platform to replicate interactivity that is akin to human-to-human conversation. Katkute (2017) provides support of the assertion by Harmeling et al. (2016) that satisfaction and reward are contributing factors to engagement, however, it is elaborated upon further to observe that user experience is also a major contributing factor to engagement, and that conversations that are personalised to a level that represents more social inclusion are the most likely to elicit behaviour considered as engaged enough to promote brand loyalty and positive relationship building. Since the research of Katkute (2017) is a Masters' paper in the field of cognitive psychology, it is well grounded in the scientific evidence that promotes the validity of the theories explored in this thesis, that seek to promote chatbots as an engagement driving tool utilising various means that are dependent on consumer behavioural influence. One final observation of interest by Katkute (2017) which serves as a caveat to others, is the experimentally evidential finding that user engagement with the chatbot was not dependent on how human-like they perceived the interaction to be. This may be explained by the possibility that as chatbots become more familiar to users, the customer is aware that they are interacting with an AI platform and adjust their behaviour accordingly to accommodate the limitations of the technology. This is positive evidence from the point of view of companies looking to invest in chatbots, as it provides the suggestion that they are still able to receive beneficial qualities from increased engagement without the necessity of utilising features considered as most sophisticated and therefore expensive.

A further supporting body of research for chatbots' capability to provide a customer engagement platform is provided by PwC (2017). Previously mentioned in this thesis, acting as Switzerland's leading company in audits and independent advisory services, PcW conducted a study into the potential uses of chatbots (PcW 2017). It has already been discussed how this research highlighted potential uses of chatbots, however, the report also observes several key findings regarding the effects on customer engagement that are achieved through chatbot integration to companies' digital platforms. It is recognised that while the research identified that chatbots represent a positive means of customer engagement, mainly through the deliverable of being able to service customers 24/7 and offer individualised service, only companies that invest in fully integrated systems will be able to enjoy the full range of benefits chatbots can offer, and thus satisfy the more demanding customer service needs in today's digital age. (PcW 2017.)

3 Research methods

Desktop research constitutes the primary research method employed by this body of work. It had been hoped by the author to incorporate both interviews with respected figures leading chatbot technology in Finland, as well as an empirical research performed using a test platform for a sample of participants to interact with, designed on the basis of the theoretical framework to measure outcomes both quantifiably and via qualitative analysis. Unfortunately given time restrictions and the requirements in depth of a bachelors' thesis. The author identified that a rigorous literature review, desktop study, and thematic analysis would be sufficient in beginning a useful foundation of research in the focus area, given the relatively small amount of available background theory.

3.1 Justification of the selection of research methods

Desktop research method has been primarily utilised in this thesis. While empirical primary research is considered to be more novel and exploratory as it applies existing theories and takes them further in a new body of research, desktop study can be in some ways considered to be more analytical, as it uses a suitable range of secondary data and intellectually pulls the strands together to identify patterns, offer critique, and whilst there is no new empirical data offer, there is something of significant value: fresh perspectives. (Management Study Guide 2018.) Desktop research from the review of secondary data allows the researcher to bring together a large volume of works in a particular field and combine, compare and contrast the findings. The author defends this method with particular applicability to this body of work, since its intention is to take a widely unknown and novel concept and explore it from several viewpoints. The thesis herein still provided novelty because the topic has not been considered from the points of view under investigation in complete unity. This study aims to serve as a thought provoking foundation to future work by providing a suitable overview of a much talked about branch of digital marketing, taking purpose from the fact that the topic is trending, but observing that there is a lot of uncertainty surrounding the concept due to ambiguity in the messages and findings from sources that are yet to be proven as ultimately conclusive.

In terms of offering some qualified defence of secondary data analysis and desktop study, online research advice website Know-how Non-Profit (2018) describes a further advantageous characteristic of secondary research is that it avoids duplication of work that has already been carried out. As a caveat to this defence, Cheng & Phillips (2014) in their appraisal of secondary analysis of existing data mention that this type of research carries the risk of being ineffective because the data collected does not have the characteristic of being specifically made for the current body of work. The author of this body of work takes

measures to avoid this risk by carefully selecting sources which are shown to have suitable levels of applicability to the RQ and associated IQs and are directly related to the investigated themes of chatbot capabilities and uses, conversational marketing, personalisation of communications, CX/UX, and used engagement.

3.2 Reliability and validity concerns

Given that chatbot technology is fairly new in its application as a digital marketing tool, there has been a lack of sources that are of the highest quality, providing the level of reliability the author would wish to use for complete reliability. In assessment of the current chatbot application status which is explored in IQ1, it is noted that many of the sources take the form of online content and blogs. The author has taken considerable effort to use only sources that write for acclaimed and esteemed organisations, or that are highly rates as authorities in their field by others. It is duly noted by the author that at least one source that has been relied upon in the assessment of chatbots as engagement drivers is provided by a company that is a pioneer of the technology. One may cynically suggest that this company has an agenda in promoting the technology, and that reported evidence from the source is likely to be lacking in reliability. The author has taken steps to avoid bias in the sources by employing two levels of quality control. Firstly, sources recognised as companies that may be biased have been reviewed cautiously, and inclusion of any key data they supply has been verified by other channels, for example. Davaney (2018) reporting on chatbots state of technology does so by means of independent survey, which promotes credibility of the source. Secondly, the author has made effort to seek sources that compare and contrast viewpoints, so that further perspectives are reflected upon before conclusion has been drawn.

Given the many theoretical aspects under consideration in this body of work, a range of journals, academic sources, and peer reviewed articles have been included as sources, and are considered to hold the most weight when observing common themes and applying thematic analysis. Particular significance has been placed on the findings of any papers grounded in scientific theory. These sources have more credibility and reliability as they are independent studies with the sole aim of research in the field, having no agenda in terms of representing a brand or promoting a vested interest. Sources of high reliability in this thesis were found using academic resource tools, Researchgate, for example. Papers such as Katkute (2017) and Haemrling et al. (2016) are examples of the highest quality sources referred to in this work. It is the consideration of the author that overall, a balance of sources was incorporated in the research, and that the reliability and validity of the thesis and associated findings remains intact, especially as this thesis is designed to

provide a foundation that can be explored by further research targeted at any of the specific areas discussed as contributory factors to the applicability of chatbot technology. Had the objective been to provide a definitive and conclusive result or product-based outcome, the author would have undertaken a more rigorous process of literature review with more depth and focus on research in which scientific methods were observed. This idea remains possible using the findings of this body of work as a foundation, particularly considering the evidence of further exploratory areas including psychology and consumer behaviour, linguistics and persuasive influence in conversational marketing, and CX/UX by strategic design.

3.3   Visualisation of research contribution to IQs

This thesis has the objective of unifying several strands of theory in marketing communications and assessing chatbot technology as a solution that effectively interlinks these theories in a useable way to benefit companies in building valuable and lasting relationships with consumers. The investigated elements of chatbot platforms as marketing tools, conversational marketing, personalisation of communications, customer experience (including user experience) and customer engagement are all considered from their respective theoretical standpoints. The research and associated analysis in thesis tie these strands together in answer to the identified RQ. The following figure serves to facilitate the understanding of relationships between the IQs, theories, research, and outcomes in the form of a simplified visualisation, showing how the research process is structured, after a reminder of the RQ and IQs themselves:

RQ: How can chatbots be applied as conversational marketing tools to drive customer engagement?

IQ1: What is the current state of chatbot technology application in digital marketing?

IQ2: How does conversational marketing contribute to improved customer engagement?

IQ3: What benefits from personalisation of marketing communications can chatbots provide?

IQ4: How does the customer experience (CX) including user experience (UX) of chatbots contribute to engagement across digital platforms.
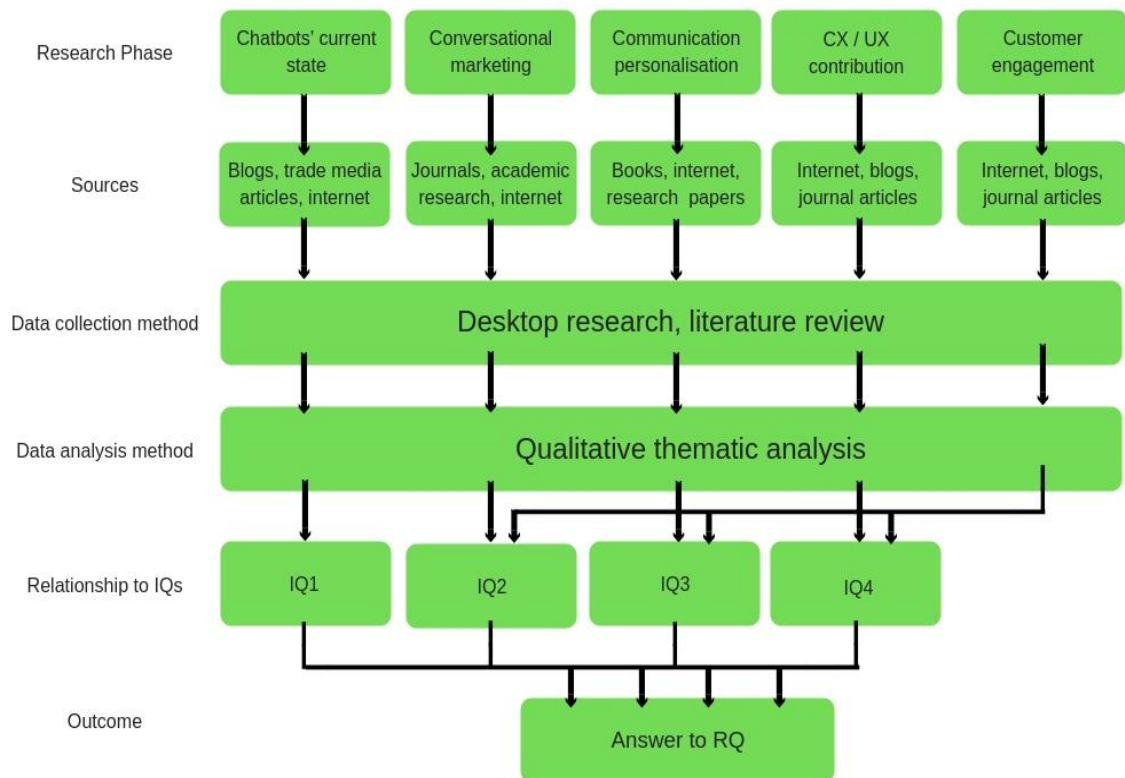
Figure 9: Visualisation of research structure, process, and contribution to RQ solution

3.4   Summary of research methods

Having now presented the procedures and methods of data collection and analysis, with support for their inclusion, the next stage of the thesis work is to reflect upon the collected sources and collect their common themes, comparing and contrasting their findings, offering additional perspectives on the research, and tying the interwoven strands together in a way that satisfies the IQs and therefore RQ of this body of work. Results of this along with review of literature and summarised findings with discussion are presented in the following chapter. Reflection on the thesis and self-evaluation is offered as additional consideration of this body of work and its place with the field of research it contributes to.

4 Results

Having introduced the theoretical framework for this thesis investigation, explained, and supported the research methods, reflection and discussion of the resulting conclusions is to be presented. The discussion is broken into sub-chapters reflecting the respective IQ elements that the conclusions refer to (See Appendix 1 for overlay matrix table).

4.1 Conclusions

Sources were gathered for research with the aim of assessing the viability for chatbots to provide and interwoven and unified solution to several current key challenges in digital marketing. Those were identified as:

- how to harness current chatbot technology to improve user engagement
- how to effectively incorporate conversational marketing to engage users
- how to capitalise on the effects of personalisation of communications to promote engagement,
- to understand how chatbot CX and UX contribute to engagement

The vast amounts of current data on the trending topic were analysed and pulled together to provide conclusions on the suitability of chatbots as engagement drivers via the identified channels. Common themes were recognised, and measures taken to cross reference and interlink the concepts and their synergy towards providing engaging use of chatbot technology. To facilitate the understanding, and to correctly place each conclusion in the context of its associated IQ, the discussion is presented as follows.

4.1.1 Conclusions addressing IQ1: current chatbot state

In solution to IQ1, the current state of chatbot technology has been reflected upon, with particular focus on the potential benefits to companies. Drift (2018) recognises that billions of messages occur between consumers and businesses monthly. With customer demand ever increasing along with the expectation of engaging, personalised, optimal digital experiences (Kurilchik 2017, 15.) companies are investing heavily in AI and chatbot technology. Approximately 80% of companies are presently investing in chatbot AI or are strategically planning to do so by 2020 (Raffath 2018) giving rise to a nineteen-fold increase of searches for chatbots in Google (Novotseltsa 2018).

Various types of chatbot were found to be in deployment, across a host of different platforms. Messenger application is considered as the most significant area for chatbot proliferation, with Saunders (2017) demonstrating that such messenger applications have surpassed social media platforms in usage numbers globally. Facebook (2018) reports over

300 000 messenger chatbots active on its platform alone, responsible for significant volumes of interaction between companies and consumers through AI. It was observed that in order for companies to capitalise on the full range of benefits from chatbots, in terms of offering a conversational marketing platform that offers engagement through personalisation and enhanced customer experience, machine learning, contextual based chatbots are required (Phillips 2018).

Industries where chatbots offer most significant benefits both presently and in predicted future operations include retail (Juniper Research 2018), insurance (PcW 2017), online customer service (Business Insider 2016).

The most significant benefits offered by chatbots were found to be:

- 24/7 customer service capability
- Encouragement of active customer interaction
- Customer engagement increased
- Extensive data acquisition and insights
- Generation of leads that are able to be qualified and nurtured
- Cost effectiveness

In surveyed respondents to the question "if chatbots were available (and working effectively) for the online services that you use, which of these benefits would you expect to enjoy?" 64% responded with 24/7 service, the highest proportion of all positively reported attributes (Drift 2018). Other highly anticipated and expected features centred upon the speed and efficiency of the chatbot platform, and enhanced customer service as the desired deliverable. The surveyed respondents' data aligned with insights on current chatbot capabilities and future potentials demonstrates a technological platform at a metaphorical crossroads. On the one hand, current, less sophisticated, logic-based chatbots (Phillips 2018) are capable of handling simple customer inputs to direct towards the required information very readily. Whilst these chatbots undoubtedly speed up services and contribute towards CX/UX, they cannot be genuinely classified as engagement-driving platforms, as they do not possess the capabilities of delivering conversational marketing components (Duijst 2017) associated with human to human interaction. With respect to IQ1 in assessing current chatbot status, this leaves us with partial fulfilment of the criteria behind driving engagement, (CX and UX component) without the other deliverables of personalisation and interactive engagement. The chatbots that fully satisfy the whole range of engagement criteria are considered to be the upper end of the market in AI and machine learning chatbots. These are currently available but at significantly higher cost than their logic based counterparts. It is recommended that in seeking true engagement drivers, companies pursue AI and machine learning chatbots capable of conversational marketing

techniques. Critical observers such Lee (2018) and Asay (2018) agree that the natural language processing capabilities are key to chatbots becoming the all-encompassing engagement driving tool they first were considered to be. Devaney (2018) cited Drift (2018) in evidence of this with 43% of respondents stating preference to converse with human agents. Unless chatbots are capable of replicating engaging and interactive conversation more naturally, it is likely that their potential will remain unfulfilled.

Conversational chatbots have proved themselves capable of making considerable benefits to companies, particularly when integrated to highly used existing channels such as Facebook Messenger (Facebook 2018). The cited examples for Lego in their online retail, and KLM in online services offer a picture of the current capabilities chatbots can deliver. These benefits will in future become accessible to more and more companies as the technology is refined and becomes more widely accepted.

The financial gains offered by chatbots demonstrate them to be widely capable of replacing the vast majority of tasks currently performed by human agents. The associated savings for businesses represents major motivations to adopt chatbot technology for retail, banking, insurance, and customer service sectors (Business Insider 2016), (PcW 2017), (Juniper Research 2018).

4.1.2 Conclusions addressing IQ2: contribution of conversational marketing

Conversational marketing proved to be the key deliverable behind chatbots' ability to provide a platform for communication that was truly engaging, in relation to IQ2. The constituent components of active participation and interactive engagement were demonstrated (Duijst 2017). Chatbots capable of best replication of natural language processing and context driven interactivity were considered to be essential to meaningful, engagement driving presence as mediators between brand and consumer. Peart (2017) highlighted the potential of conversational marketing as an effective strategy, however, it is as dependent on chatbots as a delivery method as chatbots are on conversational marketing as an interactivity platform. The two concepts clearly go hand-in-hand.

If a chatbot is considered to be delivering truly optimised conversational marketing, it must be observably:

- Functional in real time
- Scalable
- Engagement focused
- Personalised to the point of being individualised
- Contextual in a feedback-based loop

The technicalities of conversational AI were not considered in their specifics for this thesis, however, it has been demonstrated that natural language processing as a constituent of conversational marketing is almost prerequisite in building engagement. The function of conversational marketing satisfies the examined criteria in this thesis by being applicable to the multi-faceted benefit of engagement driving through CX improvement and personalisation (Devaney 2018).

Galetto (2017), Collins (2018), and Nwokike (2018) agree that the engagement driving factor of conversational marketing is the inclusive and emotional factor that leads to the customer actively participating in the exchange ad dialogue with the company. The data provided by the customer in this interaction is the currency by which the engagement driving factors are delivered. Association with personalisation was reported and further evidence of company benefits demonstrated by Medlar (2018) in highlighting how personalised elements of conversational marketing contributed towards 15% revenue increase after only 100 days of employment. Human users clearly engage with brands on digital platforms in a way that offers insight to preferences and behaviours companies can capitalise on. It these are captured through conversational marketing delivered by AI chatbots rather than thrown into the airwaves in single time interactions with human agents, the data remains usable for future interactions. The simple fact that the same human agent cannot be physically present 24/7 and retain a mental database on every single customer interaction is fundamental, very simple in principle, but absolutely at the core of automated assistants and chatbots demonstrating enhanced capabilities over human counterparts. The major question still lies in whether or not the technology can consistently replicate the natural flow of human interaction that is so important to engagement.

There is a further caveat, and one which may not become evident for some time: the effect of novelty on a new digital platform is key in company promotion and perception of being cutting edge, and thus engaging customers. Once the chatbot technology is more familiar, to the point of being expected and *de rigueur*, a plateau will likely be seen in its efficacy of drawing attention through novelty. It is expected then that the best performing chatbot platforms will prevail, and a market leader will emerge. Customers may potentially become so familiar with the platform that it becomes universally used and accepted. Perhaps then certain companies will differentiate by keeping human agents in place, with the value offering of superior service, hinging on the assumption that AI can never be truly more engaging than human interaction. In terms of evidential research in regard to the IQ, conversational marketing is a clear cornerstone of engagement, but one that is in need of further understanding and worthy technical capability to optimise. The role of data capture,

analysis, and use is quite cynically the background task performed by the company, however, if customers are shown benefits to them in their CX and personalisation, it is likely they will surrender personal data readily, and be forthcoming in their interaction with chatbots. The two-way conversation is, obviously paramount, and the biggest risk to chatbots is that they are rendered incapable of performing their duty because customers are unwilling to feed them information or interact with them.

In direct relation to IQ2 in understanding exactly how conversational marketing contributes towards engagement, Katkute (2017) provided evidential observation that the mechanism by which conversational marketing drives engagement is social inclusion. This means that chatbot able to utilise machine learning and AI to personalise and act in a natural, human manner were able to produce interactions that were more engaging (Katkute 2017). The element of inclusion on the owned participation clearly contributes to the psychological aspect of engagement, in that the user feels actively involved, and a driver of the interaction by their own means. This again provides evidence that AI chatbots may have some way to go to universally produce the kind of interaction that is defined as truly engaging.

4.1.3 Conclusions addressing IQ3: contribution of personalisation

IQ3 is concerned with the benefits chatbots can provide in personalisation of communications. Personalisation was observed to be a significant part of engagement enhancement, as it leads the customer into psychological ownership of the interaction and feeling that they are valued and being rewarded for their loyalty and advocacy of a brand or company. This needs-to-rewards based mechanism may seen fundamentally crude from a consumer behaviour point of view, but it provides the basis of almost all human interactions, never more so than in an age of attention deficit and constant demand for self-validation in the user. Expectation of the consumer is inclusion; that they are in some way partially responsible as active contributors. Personalisation is the key delivery component of this, no matter how thinly veiled from an ethical viewpoint or interactive platform. Even the simplest chatbots are capable of being perceived as personalising content, as they are technologically offering a deliverable based on individual inputs. The users' appreciation of the technology behind the service is usually insufficient as to question how the algorithm deals with their request. This phenomenon, however, is set to change as AI chatbots become more commonplace and human users are fully aware of the technological platform they are engaging with. Effects of this were already keenly observed by Duijst (2017) in evidence that the perceived "humanness" of the chatbot platform was insignificant in the engagement value of the interaction. Perhaps this is explained by the fact participants to the experiment all knew they were exactly that: experimental data providers. In a natural

user environment, it may be possible to pass of non-human chatbot agents as human without question from the user.

Moth (2013) reported that 94% of businesses rate personalisation at a critical success component, while The Financial Brand (2017) ranked personalisation in the top three significant marketing trends of the year. Personalisation itself has been highly linked to customer experience. Grunberg (2017) notes that personalised used experiences are more engaging, and more likely to promote continued, loyal interactions that enhance the customer lifetime value. With personalisation of communications at the forefront of the minds of marketing agents in 2018 and beyond, the author presents chatbots as widely capable of delivering personalisation and more; in conjunction with the synergistic compatibility with enhanced customer experience and engagement through conversation. With Bhargava (2017) describing personalisation of communications as "one to one" marketing, there is perhaps no better delivery mechanism than a chatbot designed to converse with an individual user, and utilise each interaction as a knowledge building platform for the enhancement of all future communications.

Chatbots are able to recognise, reach, remember, and provide relevance (Bhargava 2017). These are key deliverables in terms of providing the unified service potential of chatbots that is being assessed in this thesis. Reach is a commodity facilitated by chatbots' 24/7 availability, recognition relies on the data acquisition and ability to individually identify each user in the way that a human sales agent would offer personal service. Remembrance is delivered in the same way, through storing and acting upon previous interactions. Relevance is delivered in the personalised content provided, for example, upselling or cross selling of products based upon intentions of previous interactions.

 Manthei (2018) highlights how the largest barriers to effective marketing personalisation are seen in lack of understanding of suitable technologies to capture useful data, analyse this quickly and efficiently, and distribute content rapidly on suitable digital channels. Saville (2018) reinforces this point, finding that 37% of surveyed marketing professionals globally felt technology to be the most prohibitive barrier to effective personalisation. Chatbots have been proven to be readily capable of providing solution to this, with Big Data handling as one of their key capabilities. Chatbots were demonstrated to contribute toward personalisation in the following ways (Pitt 2017):

- User is spared of performing repetitive tasks
- Customer conversion process is expedited
- Number of interactions per session is diminished, reducing process friction

- Cross-selling of similar products is enabled based on learning of preferences
- Overall engagement is improved
- Loyalty is encouraged based on the digital "rapport" built up with the interaction

The key operative uncovered is not just personalisation of communication, but the interlinked way in which it provides enhanced engagement with CX contribution and interactivity.

4.1.4 Conclusions addressing IQ4: contribution of CX/UX

Customer experience must feature heavily as a part of the platform that is readily accessible and at one with the users' preferred interactive means, enabling an environment conducive to them voluntarily interacting in a way that elicits the data responses required to deliver the engagement driving components chatbots are able to deliver. In relation to IQ4, the component of CX with UX considered was assessed as a contributor towards engagement through chatbot integration. Moores (2018) reported that customers are ready to pay premium for enhanced customer experience, and it was demonstrated that exceptional personalised experiences like those offered by chatbots would likely be rewarded by customers with the kinds of loyalty and interactivity that drives the chatbot engagement process forwards. Cao (2018) demonstrated how UX plays a role in overall CX, and that chatbot platforms offer the deliverables to streamline UX while simultaneously offering the types of rewarding and novel experiences that customers demand in today's digital climate. Lowden (2014) and Eaton (2018) provided further evidence of the crossover effect of personalisation in encouraging engagement in CX/UX. The potential of chatbots in terms of CX/UX deliverables was also observed in relation to Devaney (2018) commentating on the Drift (2018) report how the currently perceived negative attributes of online and digital exchanges between brands and consumers can be effectively handled by chatbot integration. For example, the dissatisfaction demonstrated by surveyed respondents in digital service observed in figure 7 were very well responded to in the offerings highlighted in figure 8 (Drift 2018) (Devaney 2018).

4.1.5 Conclusions interlinking IQs with respect to customer engagement

In consideration of the IQs presented and their contribution to the RQ, It is the belief of the author that significant benefit of chatbots as engagement providers has been demonstrated. This has been shown to be deliverable through the perceived friction points of conversational marketing, improved CX via enhanced UX, and personalisation of communication. Though no formal scientific hypothesis was proposed, it is observed that the syn-

ergy between the assessed concepts is genuinely within realistic reach of chatbot technology as a unified solution to present digital marketing challenges as visually represented in figure 1. It is, however, relayed with caution by the author, as it is abundantly clear that the major prohibitive factors are the technological advancement of the digital platform, and reliance on users to generate the input required to drive engagement voluntarily. It is perceived that in an age of data security and protection, even if chatbots are clearly capable of driving engagements by the routes demonstrated, the pathway lies fundamentally in the hands of the user and their readiness to adopt to the technology. This is somewhat comforting in an age where some claim that automation will evolve beyond control of its creators.

4.2   Research trustworthiness and reliability

The aim of this research has been to pull together common themes and identify clarity in the many voices reporting on the trending concept. The author is aware that this thesis constitutes only a starting point, and is far from the most reliable or authoritative body of work it might have been with more time devoted, however, attempt has been made to provide solution to a challenge. The trustworthiness of any research has its merit in the sources utilised and the methodologies and practices employed. The author identifies one point of debate to be the quality of sources. Given the novelty of the technology, bogs have been relied upon, along with claims form digital sources. While not the preferred media of the author, effort has been taken to use only industry leading voices and sources that reflect a balanced view on the subject. A process of vetting sources was employed to ensure each had credibility as a provider of reliable information. Use of independent research bolsters this assertion. Finally, journals used have been gathered from scientific and impartial sources, that have also used secondary sources in the good faith that reliable methods and due diligence towards quality reporting has been taken.

4.3   Self-evaluation

This initial concept of this thesis was somewhat different to the resultant body of work. The author had initially wished to incorporate design and experimental testing of an actual chatbot platform to actively research the user experience and determine engagement, however, this would have been an exceptionally demanding and time-consuming task, and one far beyond the requirements of a bachelors' level thesis when considering the complexity of the contributing themes and associated background theories. The author is highly ambitious and remains somewhat dissatisfied in the resultant body of work given the scope for further research in the application of chatbots. Unforeseen employment related circumstances contributed to the author being unable to contribute the required time

and dedication to the research that would have been necessary to deliver a comprehensive and rigorous of work up to the author's exacting standards. However, it is the opinion of the author that with the novelty of chatbot technology a barrier to deployment, the thesis herein serves a required purpose of pulling together the many themes surrounding chatbots and their benefits into one body of research. The value of this thesis is considered to lie within the identification of a multifaceted benefit to application of chatbot technology that addresses several current key challenges in digital marketing.

The author's ambition made this thesis and associated research more complex and intricate than was entirely necessary, however, it was believed that unifying the identified themes under the umbrella of chatbot benefits would be crucial to the completion and togetherness of the body of work. It may have been perhaps wiser to reflect on one identified attribute and focus the entirety of the research on the best means of optimising that particular benefit of chatbot technology. As the thesis stands, however, the research offers to interweave complex marketing challenges with a solution that is ultra-current, but largely misunderstood. The user therefore contemplates that this avenue of research is still open, and this thesis serves as a foundation for more enhanced research opportunity.

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Appendices

Appendix 1. Thesis overlay matrix

RQ: How can chatbots be applied as conversational marketing tools to drive customer engagement?			
Investigative Questions (IQs)	Theoretical framework chapters	Research methods	Results Chapters
IQ1: What is the current state of chatbot technology applicat ion in digital marketing?	2.1: Understanding chatbots and their current applications	Desktop research	4.1.1: Conclusions on current chatbot state & 4.1.5: Conclusions of customer engagement
IQ2: How does conversational marketing contribute to improved customer engagement?	2.2: Conversational marketing & 2.5: Customer engagement	Desktop research	4.1.2: Conclusions on contribution conversational marketing & 4.1.5: Conclusions of customer engagement
IQ3: What benefits from personalisation of marketing communications can chatbots provide?	2.3: Personalisation of marketing communications & 2.5: Customer engagement	Desktop research	4.1.3: Conclusions on contribution of personalisation & 4.1.5: Conclusions of customer engagement
IQ4: How does customer experience including user experience of chatbots contribute to engagement across digital platforms.	2.4: Customer experience & 2.5: Customer engagement	Desktop research	4.1.4: Contribution of CX/UX & 4.1.5: Conclusions of customer engagement