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# Improving indicators of digital marketing using Artificial Intelligence

THESIS

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# Abstract

In recent years, artificial intelligence (AI) has become a growing trend in various fields: medicine, education and the automotive industry. AI also reached a business, namely the marketing department of various businesses. The goal of the article is to research how deeply AI is used in digital marketing. The authors asked two research questions - which areas of AI are used in digital marketing and what are the positive effects of AI on a digital marketing. To answer these questions, the authors conducted a study of secondary data with examples of AI used for marketing purposes. An analysis of the collected examples shows that AI is widely implemented in the field of marketing, although applications are at the operational level. This may be the result of the careful implementation of the new technology, still at the level of experimentation with it. The uncertainty of the results of the implementation of AI can also affect caution when applying these innovations in practice. The collected examples proved that AI affects all aspects of the marketing structure, affecting both consumer value and the organization of marketing and business management. This document is important for the business, especially the idea of introducing artificial intelligence into marketing, developing innovation, and ideas on how to incorporate new skills into the marketing team needed for new technology.

## Аңдатпа

Соңғы жылдары жасанды интеллект (ЖИ) әртүрлі салаларда: медицина, білім және автомобиль өнеркәсібінде өсіп келе жатқан үрдіске айналды. ЖИ сонымен қатар бір бизнеске, атап айтқанда әртүрлі бизнестің маркетинг бөліміне жетті. Мақаланың мақсаты - сандық маркетингте ЖИ қаншалықты терең қолданылатындығын зерттеу. Авторлар екі зерттеу сұрақтарын қойды - цифрлық маркетингте ЖИ-дің қай бағыттары қолданылады және цифрлық маркетингке ЖИ-дің оң әсері қандай? Осы сұрақтарға жауап беру үшін авторлар маркетингтік мақсаттарда пайдаланылған ЖИ мысалдары бар қайталама деректерді зерттеу жүргізді. Жиналған мысалдарды талдау ЖИ маркетинг саласында кеңінен қолданылатынын көрсетеді, дегенмен қолданбалар операциялық деңгейде. Бұл жаңа технологияны тәжірибе деңгейінде әлі де мұқият іске асырудың нәтижесі болуы мүмкін. ЖИ енгізу нәтижелерінің белгісіздігі де осы жаңалықтарды тәжірибеде қолдану кезінде сақ болуға әсер етуі мүмкін. Жиналған мысалдар ЖИ тұтынушылық құндылыққа да, маркетинг пен бизнесті басқаруға да әсер ететін маркетинг құрылымының барлық аспектілеріне әсер ететіндігін дәлелдеді. Бұл құжат бизнес үшін маңызды, әсіресе маркетингке жасанды интеллект енгізу, инновацияны дамыту, жаңа технологияға қажет маркетингтік топқа жаңа дағдыларды қалай енгізу туралы идеялар.

## Аннотация

В последние годы искусственный интеллект (ИИ) стал развивающейся тенденцией в различных областях: медицина, образование и автомобилестроение. ИИ также достиг бизнеса, а именно отдела маркетинга различных бизнесов. Целью статьи является исследование того, насколько глубоко ИИ применяется в цифровом маркетинге. Авторы задали два вопроса исследования - какие области ИИ используются в цифровом маркетинге и какие положительные последствия ИИ дает цифровому маркетингу. Чтобы ответить на эти вопросы, авторы провели исследование вторичных данных с примерами ИИ, использованными в маркетинговых целях. Анализ собранных примеров показывает, что ИИ широко внедряется в области маркетинга, хотя приложения находятся на операционном уровне. Это может быть следствием тщательного внедрения новой технологии, все еще на уровне экспериментов с ней. Неопределенность результатов внедрения ИИ также может повлиять на осторожность при применении этих нововведений на практике. Собранные примеры доказали, что ИИ влияет на все аспекты структуры маркетинга, влияя как на потребительскую ценность, так и на организацию маркетинга и управлению бизнесом. Этот документ имеет значение для бизнеса, особенно идеи по внедрению искусственного интеллекта в маркетинг, разработке инноваций и идеи о том, как включить новые навыки в команду маркетинга, необходимые для новой технологии.

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To my university

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# Nomenclature

SDU Suleyman Demirel University

# 1. Introduction

## 1.1 Motivation

Artificial intelligence (AI) has recently become a familiar topic in the field of management and marketing sciences, although, paradoxically, process its development in other grounds of skill has been current for more than one-half a century. Above the daysprings AI has appeared in the spotlight and disappeared contingent the level of its evolution and the increase in its potency pertinence The interest and extensive give-and-take of AI was triggered by the first large-scale commercial-grade uses of AI, which demonstrated the potential and capabilities of this application besides in the study of marketing. The rapid evolution of AI in new daysprings has been fabricated potential by improving the cognitive devices of AI and the ability of machines to memorize supported on the data obtained, and also due to the possibility of creating formerly nonextant data file The strength of AI besides prevaricates in the spectrum of processing versatile facts appearances - in augmentation to denotative facts ai processes words representations and sounds out plumb ensuring their significance and appropriateness for advance psychoanalysis.

AI has heretofore attracted the aid of designers IT experts and analysts, but now it goes bey its customary grounds of activity, manufacturing an progressively obtrusive step in the field of management and marketing. The ever-growing loudness of consumer facts available on-line in big facts organized whole or mobile contrivances builds AI an important marketing friend because it is based on data psychoanalysis in most each spaces of its application. Marketing grips reward of the data to a big size - from studying consumer requires analysing the marketplace discernment clients and competition data file conducting occurrences in various note or apportionment watercourses and measuring the results and effects of adopted plans Merchandising is comely a raw donee of the evolution of it. The

proximity of both realms acknowledges for a cooperative core. So it seems significant to punctuate the potency of ai and available AI-based utensils and discuss the commercial coating of AI in the field of marketing.

## 1.2 Aims and Objectives

The core of marketing has not denatured but the way of note has denatured marketing. It changes every day after day That is where the big shift happened. The art of storytelling is plentiful, but the key to this is how we differentiate the adventure and the means by which we tell the story. The big substitutions that testament hap in marketing, also as in patronage are artificial brainpower and car eruditeness - Sanjiv Mehta, CEO and MD of Hindustan Unilever Ltd.

It is not so ambitious to say that in the futurity merchandising testament progressively use AI. Eve now the components of an contrived intelligence-based approach are jolly lot in place. Mod merchandising is becoming also decimal targeted and leveled to patronage outcomes Ads and furtherances are progressively beingness altered to mortal consumers in real age Societies employ many watercourses to access clients but they are increasingly victimisation digital cognitive operation. The company's marketers calm exercise with means severals of which birth highly-developed their own analytical abilities - Thomas H. City

## 1.3 Thesis Outline

The composition consists of four pieces The first office incorporates key definitions of ideas related AI. The second converses about instances of AI solves enforced in the study of digital merchandising. The third office which is the result of an psychoanalysis of the collected instances holds a discription of the areas of influence of AI on marketing. The final office of the paper converses about the chances and dangers implicit the use of AI in marketing actions

## 2. Preliminaries

AI has heretofore attracted the interest of engineers, IT experts and analysts, but now it goes beyond its customary grounds of activity, manufacturing an progressively obtrusive step in the field of management and marketing. The ever-growing loudness of consumer facts available on-line in big data systems or mobile devices, builds AI an important merchandising friend because it is based on data psychoanalysis in most each spaces of its application. Marketing grips reward of the data to a big size - from studying consumer requires analysing the marketplace discernment clients and competition data file conducting occurrences in various note or apportionment watercourses and measuring the results and effects of adopted plans. Marketing is comely a raw donee of the evolution of it. The proximity of both realms acknowledges for a cooperative core So it seems significant to punctuate the potency of ai and available AI-based instrument and discuss the commercial coating of AI in the field of marketing.

# 3. Key elements of AI and digital marketing

## 3.1 Marketing mix

In 2013, the American Marketing Association authorized a new version of the definition of marketing. By the association, “marketing is an activity, a set of institutions and processes for creating, exchanging, delivering and exchanging proffers that are worthful to clients clients sharers and club as a whole”. [1]

A decisive expression of marketing is providing that provided that esteem to customers, patch esteem can represent versatile viewpoints of a production much as results concepts helps data file or any case of resolution that satisfies client requires.

McCarthy planned the idea of a “marketing blend as a conceptual model that carrys marketing provisioning to life. Although the marketing blend is not a scientific opinion its tools can develop both semi-permanent plans and short-run politic marketing programs. McCarthy svelte Borden’s former conception of aim market-place fulfilment He grouped 12 Borden components (product planning, pricing, branding, distribution channels, personal sales, advertising, promotion, packaging, demonstration, service, physical processing, fact discovery and analysis) into foursome components titled 4P: product, price, promotion and place. Advance improvements have been made in the concept of marketing, much as the addition of another P - people, processes, physical evidence, although the estimate of 4P is calm wide victimised and recognised (see Figure 3.1) AI could be used in Publicity office of 4P, as this office protects advertisement messages, conversation, lots of data, where AI could established results.

Diagram

## THE 4 P'S OF MARKETING MIX

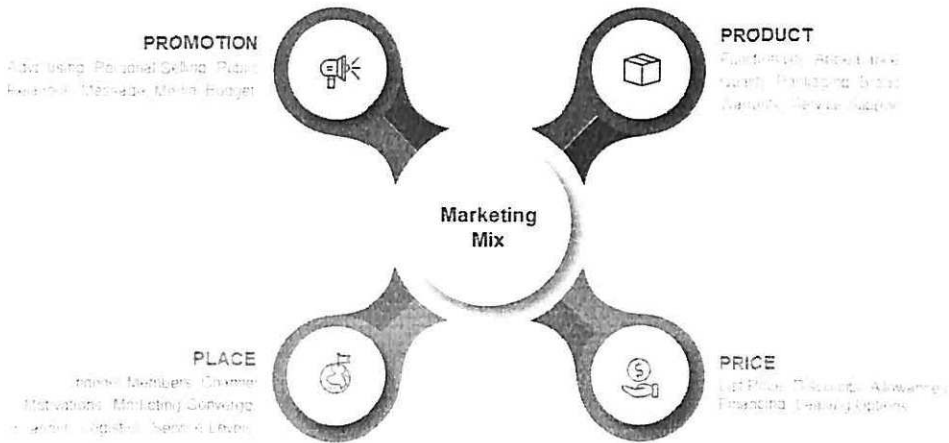


Figure 3.1: The 4 P's of marketing mix

### 3.2 Digital marketing

Digital marketing incorporates all marketing moves and distance that use an electronic gimmick or the net to established advance betray results or services and industries use internet watercourses that testament aid them follow that. Websites, societal media leaves targeted notices and email incline to hold flow and increase expected clients Clients re-sellers, rivals suppliers, promoters, the overall saving locating division increase maturation results kinds advertizementing marketplace hand term advertizementing outlays act of re-sellers, moil client esteem etc. are some of the chief variables that adopt deciding. It is sealed that deciding is a count of aggregate variables supported on psychoanalysis feel and perspicacity.

In club to define the key office of ai (AI) on digital merchandising search we mustiness correspondence the current spot of digital merchandising well-organized search and compare it to the business sphere So we testament cognition in what scurf digital merchandising in world waterfalls shortstop of the development in business sphere [2] .

We concisely canvas the near significant digital marketing [3] ways for commercial-grade employ Search engine optimization (SEO), social media marketing (SMM), content marketing, pay-per-click (PPC), affiliate marketing, native advertising,

email marketing, chatbots, semantic search, ad targeting, predictive marketing, voice search, A/B testing, lead scoring and web evolution are presented.

**Search Locomotive Improvement (SEO):** It refers to optimization ways that testament growth the organic movement of a website, blogs or infographic to grade greatly in search locomotive outcomes.

**Social Media Marketing:** It refers to practices that act and promote kinds societal media leaves to increase constituent movement make cognizance and generate conducts for a business.

**Content Merchandising** It refers to the strategical and human-centric cognitive operation foundation of a blog situation e-book, infographic or on-line pamphlets to generate make cognizance movement growth lead-in genesis and customers.

**Pay-Per-Click (PPC):** It is a method of driving movement to a website by paying a publishing net servicing every age an ad is clicked, or an achievement took position.

**Affiliate Marketing:** This is a referral tactic of promoting a patronage buttoned up an individual or a net of promoters who get commissioning on their site either having the manakin of a video either a hosted data point.

**Native Advertizementing** It refers to advertisements that are displayed on a web program aboard with non-paid cognitive operation and gos the raw manakin of user feel

**Marketing Mechanisation** It refers to software that automates canonic patronage day care requires much as netmail newsletters, societal media situation programing etc.

**Email Merchandising** It refers to methods of creating promotional netmail operations to hold impinge with the patronage tell it for discounts, new stuff and events.

**Chatbots:** Advert to continuous programmed and automated synergistic uses for chatting and completing organizations with the visitors of a site or societal media pageboy when the last pay a chaffer

**Semantic look** It refers to a ache facts trenchant adjustment that aids consumers get the result they look for, quicker Supported on car learning explains the look question and through facts correlations amongst the rows grasps the meaning of the look articulate It predicts what data file consumers mightiness pauperism supported on their look story

Content Foundation It refers to a cognitive operation foundation adjustment supported on an ai (AI) method titled raw lyric genesis that collects structures changes uncooked facts important to the look question into clear fun fiscal etc. accounts or proposes agnate results to clients supported on their buy story

Ad targeting: It refers to sophisticated on-line ad genesis technics capital for stigmatisation It generates or optimizes notices supported on user's story and behaviour importing constituents much as geographic fix sex age etc. for better consumer targeting aiming to meliorate the counter of asset to the advertisers.

Predictive merchandising It refers to an ai (AI) method that collects users' behavioural facts analyses them buttoned up facts mining discovery any possible facts correlations including favourites and needs. With these facts provisions the machine learning modeling and produces better forecasts that aid company's decisiveness makers.

Voice search: It refers to artificial brainpower (AI) technics for part searches through examine Part trenchant testament reinstate the perception of results speeding and connection and it is supported on tongue processing and text mining technics testament micturate data file retrieval an highly easy process.

### 3.3 Artificial Intelligence in digital marketing

Before companies can begin implementing AI marketing solves it is better to see the pieces and components of AI and how they micturate them exercise quicker easier and also expeditiously The following are explanations of AI components supported on Brookings Formings delineations.

Artificial intelligence is a collection of machines that answer to stimulation in the identical path as humans. He can make decisions that normally ask busyness feel E.g., chatter bots in messenger, that mechanically account clients queries.

Machine learning is a technology that analyses adds up to of data to identify tendencies and get data file It provides AI systems with the ableness to mechanically acquire and improve. E.g., Smart Bidding [4] in Google Ads. Smart Bidding is a subset of machine-controlled tender plans that use machine learning to act for conversions or rebirth esteem in each and every auction—a boast admitted as “auction-time bid [5] .

Data skill is the study of where data file approach from, what it substances

and how it can be took E.g., thither are lots of data in Google Analytics [6] and Yandex Metrika of each fellowship.

Typically, all three of these technologies go give in give They consecrate marketers the big break to see the coca plant loudness of data in order to notify them of originative and strategical settlements.

Since the variables, that adopt the outcome can be quantified and mensurable a new question is arising "In what scurf contrived brainpower (AI) can contribute to digital merchandising research?" . Merchandising decisiveness makers are forever using their feel and instinct to make settlements supported on huge come of facts datum sea-charts beliefs and discernment Necessarily that builds the decisiveness difficult to make crusade of the complexity and multifactor destinies Artificial intelligence (AI) appears open to clear the diffuse of how can so much data file be refined and get a low risk decisiveness in shortstop age flow Ai (AI) uses depart from patronage to patronage Nevertheless patronage prognostic representations birth their bases on scientific search But there is a lag in artificial intelligence (AI) search and an growth in patronage [7].

Search Engine Optimization (SEO): Scientific research on SEO appears to birth single the biggest loudness of well-organized search disseminations Referring to look locomotive improvement or SEO's, near associated well-organized publicized labours care evolutionary computations, foggy healthy organized whole car learning algorithms and web-crawlers for recital assembly and analysing websites' facts irritating to meliorate webpages superior postures in search motors outcomes compounding superior constituents buttoned up an intelligent learning modeling

Social Media Marketing: The number of scientific disseminations referring to social media merchandising largely examination client behaviour client meaning persona discernment ways analysing facts from societal media buttoned up car learning representations and facts mining technics exposes the diminished build thereon study

Content Marketing, Content Creation and Predictive merchandising Well-organized search victimisationing facts extracted from blogs, websites, e-shops and societal media investigates victimisationing facts mining, persona discernment ways text mining and machine learning technics care keyword origin adept organized whole clients decisiveness support process text psychoanalysis prognostic psychoanalysis in order to produce optimized cognitive operation.

Pay-Per-Click (PPC) and Ad Targeting: Machine learning plays a above office in scientific search for bid and notices targeting buttoned up optimized advertizing representations It examines criteria which appropriate to evaluate the significance of dissimilar constituents on probabilities of clicks and conversions. Car learning is used to erect retrogression representations out of available facts creating regressions representations that go fresh data file and obscure tendencies [8] .

Chatbots: Chatbots research has made a serious build in equivalence to over-the-counter digital merchandising ways From health care and breeding to the digital counseling and assurances sphere thither is a very significant current search to machine-controlled robotlike simulators that interact with men piquant AI subfields care decisiveness support organized whole nervous aboves independent examination ways etc.

Semantic search: There is an extensive search referring to semantic search involving aggregate merchandising positions and its foundations. The scientific search by far exceed agnate trys from patronage sphere and incorporates a high-pitched loudness of scientific disseminations referring to search motors data file retrieval, man across-the-board interlacing tongue processing organized whole websites, facts mining, societal networking, net learning algorithms, machine learning, information analysis, query processing, data file government decisiveness support organized whole

Voice search: Most research refers to voice search and digital marketing is infrequent and limited. However, in other scientific fields makes an impressive progress. Most important research referring to marketing includes personal voice assistant technologies and speech recognition providing flexible interaction technique where the user and the system act as equal participants having the ability to facilitate precise and unambiguous answers in web queries.

Web development: It seems that the biggest amount of scientific research which has been conducted refers to web development. More than 2000 publications have been describing web technologies and optimized versions of them. From web design and web development to web application, web services, mobile friendly websites and data representation, artificial intelligence (AI) is involved in an effort of optimizing procedures in web development.

Despite the technological advance or academia in some marketing fields there

are no substantial evidences which prove any remarkable scientific research specifically on affiliate marketing, native advertising, marketing automation, lead scoring, e-mail marketing and A/B testing which could considered measurable at this stage [1] .

# 4. Methods

## 4.1 Chatbot

Customer service automation has been progressing importantly above the past decennary. With the launching of chatbots to aid in decision-making on websites much as Facebook, human beings buoy substance and “interact” with chatbot helpers in substantial age Facebook chatbots are powered by artificial brainpower – or, contingent the case – pre-programmed answers that the system grasps supported off of a human-directed interrogation [9] .

Chatbots office likewise to customer service representatives (CSR) for base-level queries by using natural language processing (NLP) to answer to client refers in a well-timed and close mode NLP is a subset of artificial intelligence that helps computers read and answer to busyness lyric [10] .

Automating customer service can aid societies continue approachable during off-hours. E.g., if a company’s working hours are 8 a. m. -6 p. m. (CT), but someone from a dissimilar office of the land or dissimilar land all requires to contact a CSR, thither hawthorn never be a viable age that labours for both the client and the company; nevertheless with the approachability that is provided by chatbots as CSRs, responding to queries and refers of high-pitched grandness can be finished with a customer’s timetable in judgement.

A hardly any daysprings past on-line merchandising was all almost apps or infographics, but now a new thespian has ejaculate into the spotlight: the chatbot. Why have chatbots became so popular lately? Is it fair plug or something unfeignedly revolutionary?

Chatbots birth existed for decades, but businesses birth but late begun to exploit the opportunities they allow You can get chatbots in messaging apps on smartphones for individual employ or on fellowship websites for business employ

A well-optimized chatbot buoy be a corking augmentation to a company’s site as it can help to boost your rebirth scolds The real mention for bringing chatbots advance into the spotlight goes to Facebook Envoy due to the fact that Facebook made it potential to mix chatbots into the program In 2016, messaging apps had already surpassed societal media and the four greatest messaging apps had reached almost 4 gazillion consumers.

(see Figure 4.1)

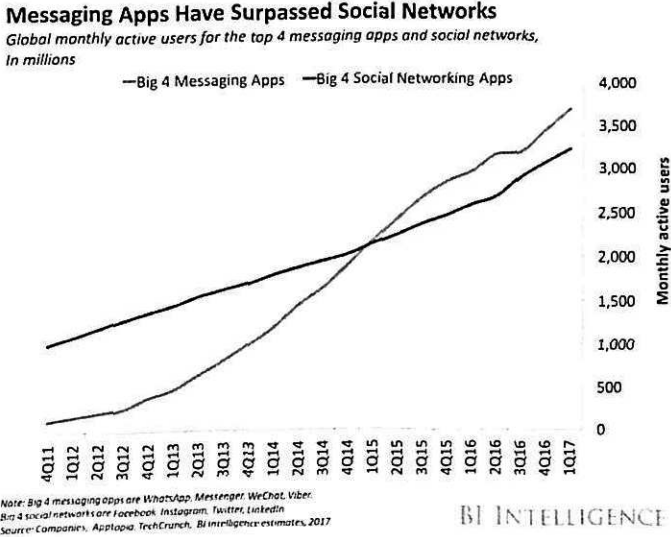


Figure 4.1: Messaging apps have surpassed social networks

Facebook Messenger has 1.3 billion monthly active users and it is one of the most popular channels for communication, including reaching out to customers.(see Figure 4.1)

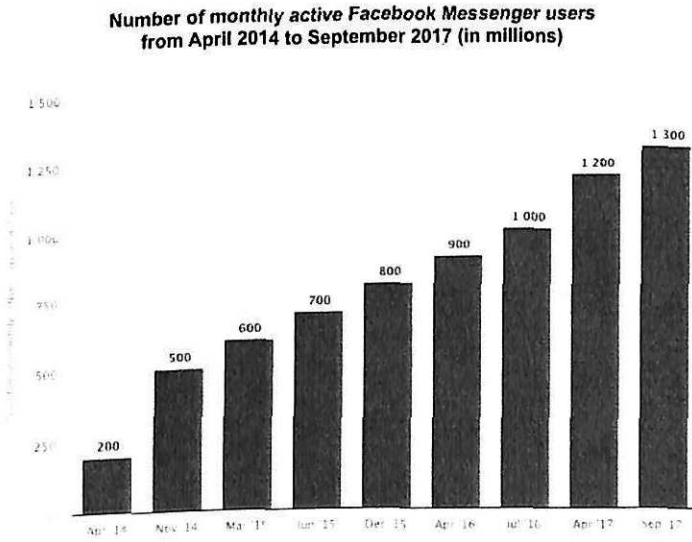


Figure 4.2: Number of Facebook Messenger users

This large active consumer count got companies busy building bots. Also just thither are 100, 000 active bots on the Messenger platform. According to Venture Beat, "That's up 233 percent from the 30, 000 bots on Messenger six months after the boast establish in April last year [2016]. " Near of these were created for client servicing but some were created to solve over-the-counter singular solves – care the bot that is intentional to fight work harassment [11] .

The man is changing forever and I'm not but conversation almost zooms trans-planting on dawdler vessels The general consumer confidences birth denatured lots in the cobblestone copulate of years. Now societies that wish to betray something or need also subscribers birth to excel of the gang The best way to do so is to inset fresh components into the already-existing patronage modeling and improve the user feel Apps are in all places and human beings are disgusted them: between 80-90 pct of apps are victimised erstwhile so deleted [12] . The one exception is messaging apps, which account for 91 percent of time spent on mobiles in the U. S.

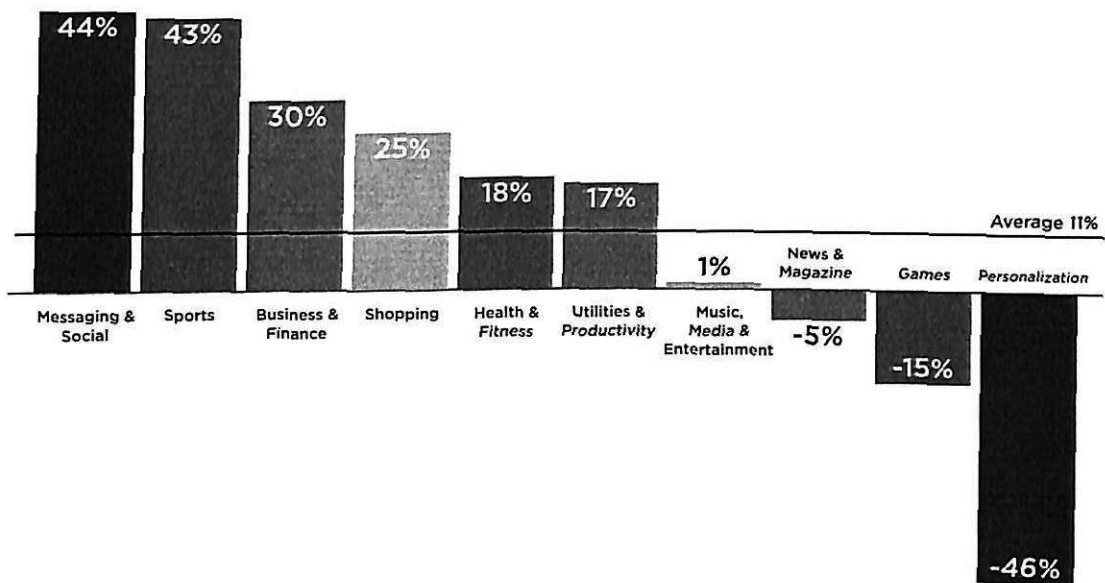
The following two images from Flurry show the growing usage of messaging and social media apps:(see Figure 4.3)

As Flurry reports: "Time spent in Social and Messaging apps grew by an astounding 394 percent over the last year, proving to be the driver that helped mobile achieve its year-over-year time-spent growth of 69 percent [13] ."(see Figure 4.4)

#### Benefits of Using a Chatbot in Business:

- Chatbots have potentiality Even though they are progressively victimised the modern chatbot is calm a new application With the chronic evolution of AI, the potential for bots in business and personal existences is unrestricted
- They can be easy to bod It depends on what you want to accomplish, course, but you can design a simple chatbot supported on the Facebook Envoy without whatever scheduling feel
- Chatbots underline the company's brand and image. The chatbot substitutes for the company when it's acting with the client so, from a marketing point of view, it is a perfect embodiment of brand building.
- They offer straightforward helps A well-optimized chatbot makes known but the essentials and does not deluge the consumer

## Mobile App Usage Grows 11% Year-Over-Year (Sessions)



Source: Flurry Analytics, 2015-2016 year-over-year session growth

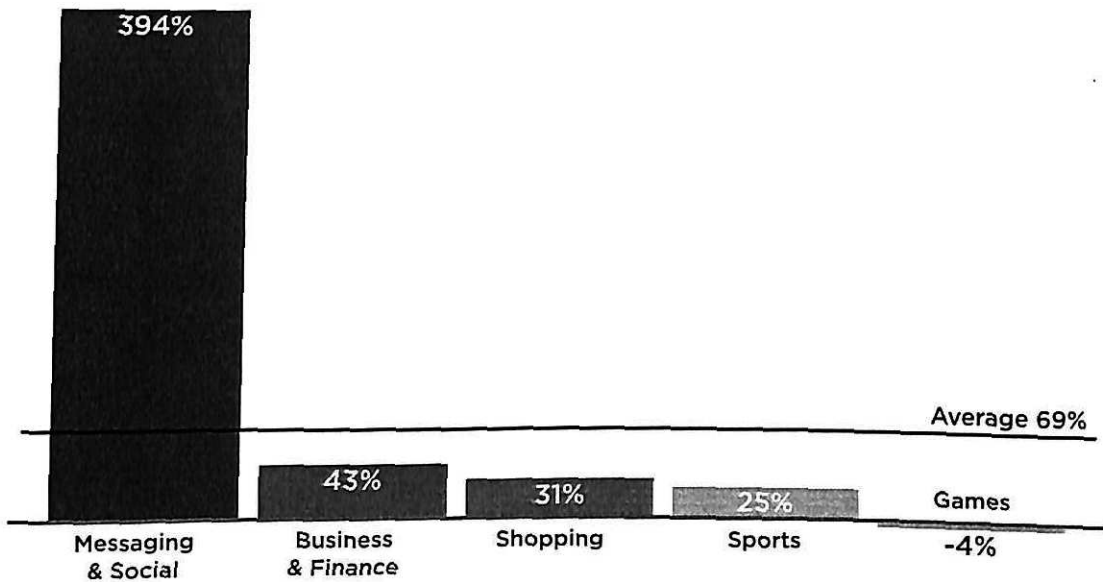
Figure 4.3: Mobile app usage grows

- Chatbots automatise processes. Bots are able to acquire business exercise for, loosely speechmaking quotidian or canonic analytical duties

Common Classes of Chatbots. We can distinguish cardinal chief classes of chatbots:

- Simple (Scripted) – This is the simplest case of chatbot. Discussions with this case can only hap in pre-defined distance and aimings In other rows you'll dumbfound a pre-programmed answer to each dubiousness you ask. The chatbot cannot depart from this in any path Simple chatbots look in messaging apps much as Envoy or Skype. Their solitary aim is mechanisation care engagement a flight or making a purchase.
- Intelligent – Using artificial intelligence allows the chatbot to allow also flexile answers to the user's queries This type of bot (such as Cleverbot [14]) learns of find out from each discussion and employs these contacts to reply futurity queries also accurately. Nevertheless ai besides has limitations:

## Mobile App Time Spent Grows 69% Year-Over-Year



Source: Flurry Analytics, 2015-2016 Year-over-Year Time Spent Growth

Figure 4.4: Mobile app time spent grows

a chatbot reinforced with AI technology cannot see also composite structures or lead the conversation – it but presents replies

It is rattling easy to create a chatbot servicing indisposed Without right research, UX design [15], investigation and execution, you can essentially fair spoilage the chatbot. This may not cause any specific harm to patronage but it has a veto brownie on the company's perspicacity [16] .

- Your chatbot requires a persona. Use customer faces to see the behaviour of particular user groups better – for exemplar what they gestate from the website and the fellowship Make a character which not only resonates good with assemblies but is besides piquant and fun.
- Employ inactivity age Inactivity joins an additional “human factor” to the discussion When people peach to each over-the-counter the response time can be very random; people don't always answer incisively upon receiving a substance Inactivity age can also check that the user has time to process the information that the chatbot do.

- Do A/B trials If you aren't surely almost how the users testament respond to certain components of the bot, make aggregate forms and bill the outcomes Distinguish the near ambitious viewpoints of the UI and see what labours better
- Avoid a wall of texts. As with a blog situation seeing a huge blockage of text can be overpowering Essayer your messaging app on as several contrivances as possible, cheque the communications on dissimilar cover magnitudes and use emojis every erstwhile in a while to break up the text.

How to build a chatbot for business? Thither are 6 steps [17]:

1. Pick the Preferred Software. The first and most significant tone when construction a chatbot is choosing the right software.
2. Contrive the Onboarding Feel. Discernment the conception of the user feel is imperative so make surely you recognise fresh consumers with a proper salutation text and welcome substance
3. Make the Main Food The main food testament be one of the near significant components of your chatbot as this testament aid draw your guest and pilot the discussion in the right focus
4. Pick Your Favorite orders. The command food is incisively what the name proposes – you can infix dissimilar bid to which the chatbot buoy respond with a preconceived face
5. Act the Sequences. Scheming and optimizing progressions is an significant job as this is one of the chief utensils for list expression These progressions are similar to autoresponders that are known from netmail newsletters.
6. Set a Default Respond This tone is optional but I calm advocate that you not leave it blank.

## 4.2 WhatsApp chatbot

Most companies already know about live chat bots or artificial intelligence systems that you communicate with in instant messaging, and many already use this

feature on their site. But have you ever thought about updating traditional chats with AI-based chat bots? The time has just come to do this. Recently, National Australian Bank launched a customer support chat chat to help customers find answers to common banking requests. The bot is able to answer more than 200 common questions related to banking [18] .

There are a huge number of programs for creating business logic for chat bots in the Facebook, Telegram and WhatsApp messengers. After analysis and a series of tests of these programs, the most stable and successful was revealed, and this is Xenioo.(see Figure 4.5)



Figure 4.5: Interface of Xenioo

For example there is sample of WhatsApp chat bot, where we can see "Star Interaction" and "Fallback Interaction". They need to start the work of chat and to stop it.(see Figure 4.6)

For this research work developed WhatsApp chat bot for pizza delivery. First of all, before starting to develop chat bot we should understand scenario of conversation of each business, usually in called sales scripts. According to this business logic, we develop chat bot.(see Figure 4.7)

When we build a chatbot using Xenioo, there are some key concepts that we will see repeated multiple times and that need to be understood to navigate your flowing designing Your chatbot is basically burst into aggregate layers. Each bed particulars also and more specifically a singular functionality. The highest abduction bed of your chatbot flowing is the behaviour A Behavior is, loosely

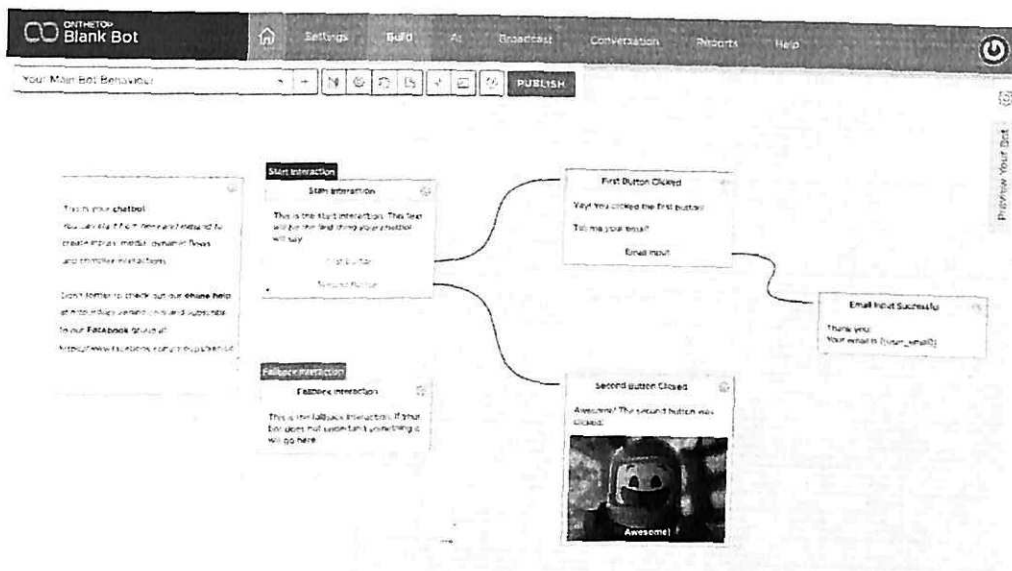


Figure 4.6: Sample of WhatsApp chat bot

speechmaking how your chatbot grips a specific spot A behavior of your chatbot for exemplar may be titled "Feedback Management" and address all related receiving feedback from a consumer You are not force to create aggregate behaviors in your chatbot as lot as you are not forced to create your chatbot using but single it is capable you to opt how to organize your flowing and your discussion pieces You can besides commute your judgement after and group all interactions into a ace single or split them into aggregate behaviors using the go bid When you make a new chatbot, Xenioo testament mechanically make for you your rattling kickoff and basic Behaviour [19] .

Looking at the default behavior image below (see Figure ??), we can see all of the main fields and functionalities by number:

1. This is the behaviour discover You can commute the discover to anything you wish anytime. This survival listing testament besides yet, authority the full list of all your chatbot behaviors.
2. Using this button you can anytime add a new behaviour to your chatbot. New behaviors testament always be created with the two empty interactions you date line.
3. This cog icon clit testament slew in the right venire and exhibit the flow behaviour particulars In the pic you already see the right panel displayed.
4. These are name and description of the chosen behaviour You can commute

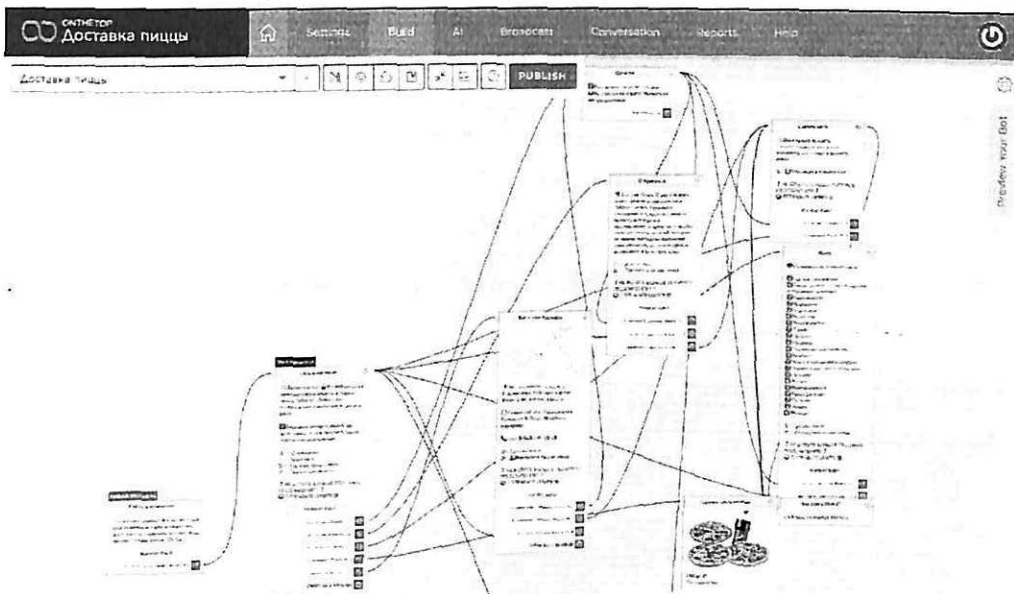


Figure 4.7: Logic of WhatsApp chat bot

them anytime to anything that aid you coordinate or better retrieve your chatbot functionalities.

5. This flagstone builds the current behaviour the first behaviour The start behaviour is the entry head of your chatbot and it is where the conversation testament first But single behaviour per chatbot can be marked as the start one.
6. This law is your chatbot API Token. Behavior API coins buoy be used by external integrations and other utilities to refer to your chatbot and to this particular behaviour.
7. The Add Interaction clit allow to you add a new interplay to the current behaviour.
8. The Add Operation clit allows to you add a global behaviour cognitive operation to the flow behaviour Advert to the actions and operations data file to cognition which functions buoy be added and how.

For this research the main Behavior was chosen as to inform about company, menu and special offers. (see Figure 4.9)

Inside each behavior, we find one or another Interactions. Interactions delimit the steps of your chatbot behaviour and contain data file of how exchanges with

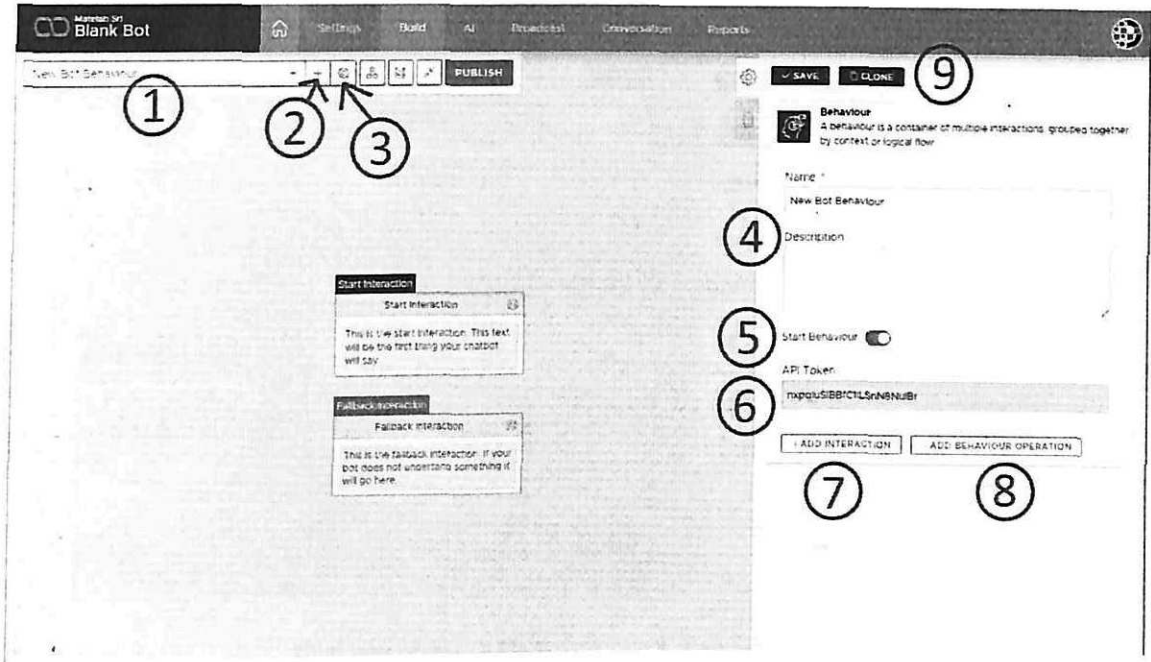


Figure 4.8: Elements of "Behaviour"

your consumers occurs Each interplay testament so arrest single or more achievement Each achievement determines a minimum whole containing a ace tone of a better interplay A single achievement buoy be, as an exemplar a speech bubble or a button or an persona We can add a new Interaction to our designing by using the Add Interaction button on the behavior item panel. Clicking on any interaction or on the small cog button on the top right of the Interplay corner testament break a number of options and details. (see Figure ??)

1. This is the Interaction name. You can commute it anytime to anything you care.
2. This flag marks the interaction as the start one. The start interaction in a behavior is the default interaction of the behaviour if no interaction is specified for a particular cognitive operation.
3. The Fallback Interaction flagstone spots the selected interplay as the fallback for the chosen behaviour The fallback interaction is intermeshed every age your chatbot meets an error or something it cannot cope with.
4. Although an interaction can be both First' and Fallback we strongly apprise to hold these two types separated.
5. The Enable User Chat flag is marked by default and specifies if the consumer

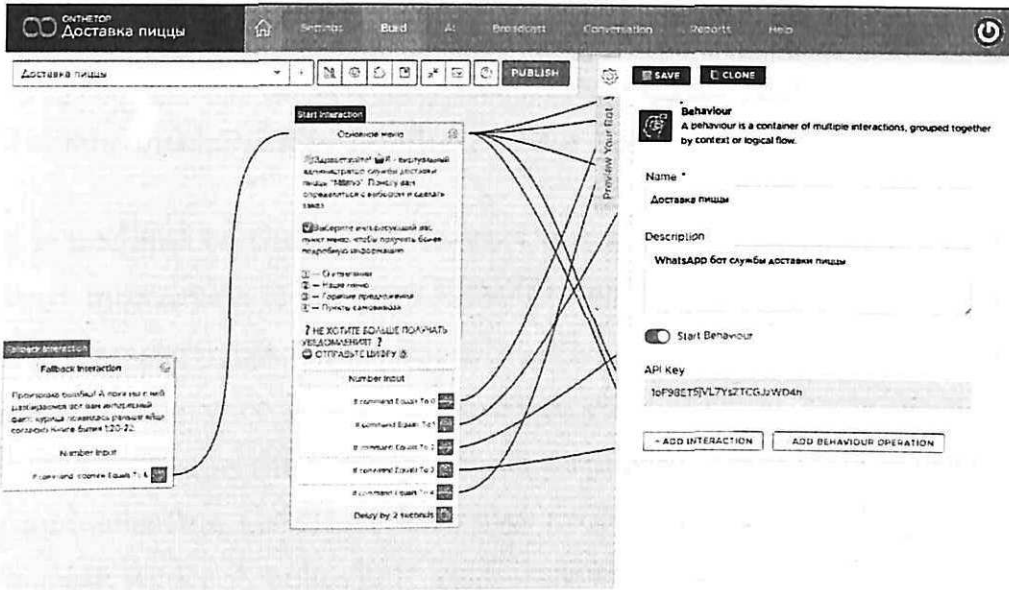


Figure 4.9: "Behaviour" for chat bot

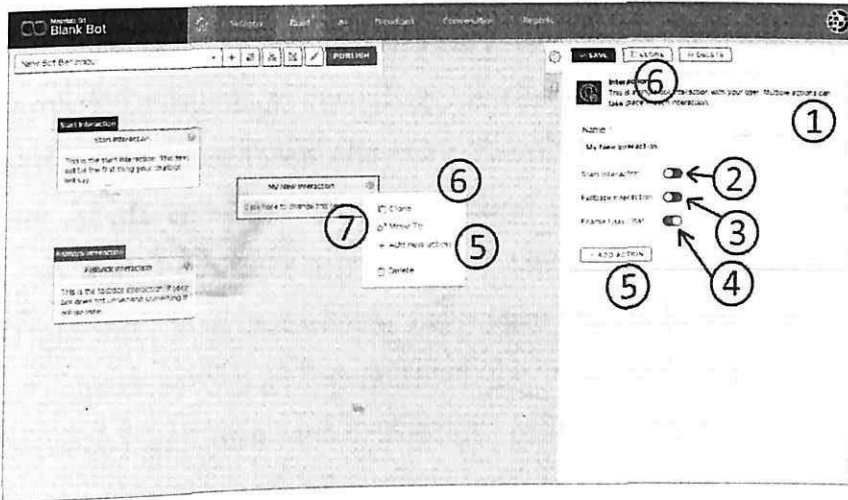


Figure 4.10: Interactions of chatbot

buoy pen something patch the chatbot is in the chosen interplay Not all channels support disabling the substance ar those channels will just ignore the flagstone

6. Use the "Add Action" button To add a new action to the selected interaction. Activities buoy birth dissimilar results and exhibit dissimilar data to the user.
7. You can completely duplication the chosen interaction with each included activities and operations using the "Clone" button
8. Using the "Move To. . ." button you can opt to go the chosen interplay to

a another behaviour or even to a new behavior. All dependent interactions testament be moved and all committed or referenced "Go To" activities testament mechanically familiarised for you.

There is no limit to the act of interactions a ace behaviour can contain.

The start interaction is the very kickoff interplay that obtains executed by the chatbot when no particular interplay is selected. In the chatbot default Behaviour it testament be the very kickoff affair that your chatbot testament do for the user. You can commute the nonpayment interplay anytime by clicking on another interplay and selecting the Start Interplay switch in the Interplay particulars on the compensate venire A behaviour have to have one and but single first interplay if you dispatch the First Interplay flagstone from an Interaction, Xenioo testament willy-nilly pickax another Interplay to be the start single.

The Pullout Interplay is executed every age your chatbot cannot cognitive process and remark or an user case E.g. if the consumer states "hello" and no input or global detection captures the text, Xenioo testament redirect the outturn to this Interplay Aaft the Activities contained interior the Pullout Interplay are executed, Xenioo will automatically redirect the flow to the Interplay where the Fallback was triggered. You can course commute this behaviorism by adding a Attend achievement interior the Fallback Interplay that redirects where you want. A behaviour mustiness birth one and but single fallback interaction. if you dispatch the Fallback Interaction flatbed from an Interaction, Xenioo testament willy-nilly pickax another Interplay to be the fallback single To force your chatbot to restart whenever something unforeseen occurs you may wish to birth an interplay to be both First and Fallback. Although possible, this is not recommended as it may lead to odd flowing redirection patterns during execution.

In WhatsApp chatbot we set command like number. For example, if user write "1", chatbot respond with information about company and so on.(see Figure 4.11)

Each of your chatbot interactions can contain one or more action. Each action defines a minimal unit containing a single step in of a greater interaction. A single action can be, as an example, a speech bubble or a button or an image. Generally speaking instead, an operation is an action that results from the triggering of the parent one. For example a button action can trigger a Go To operation or a Switch action can trigger variable change operation. Since there's no virtually limit to the type of actions and operations your can mix and match there's also

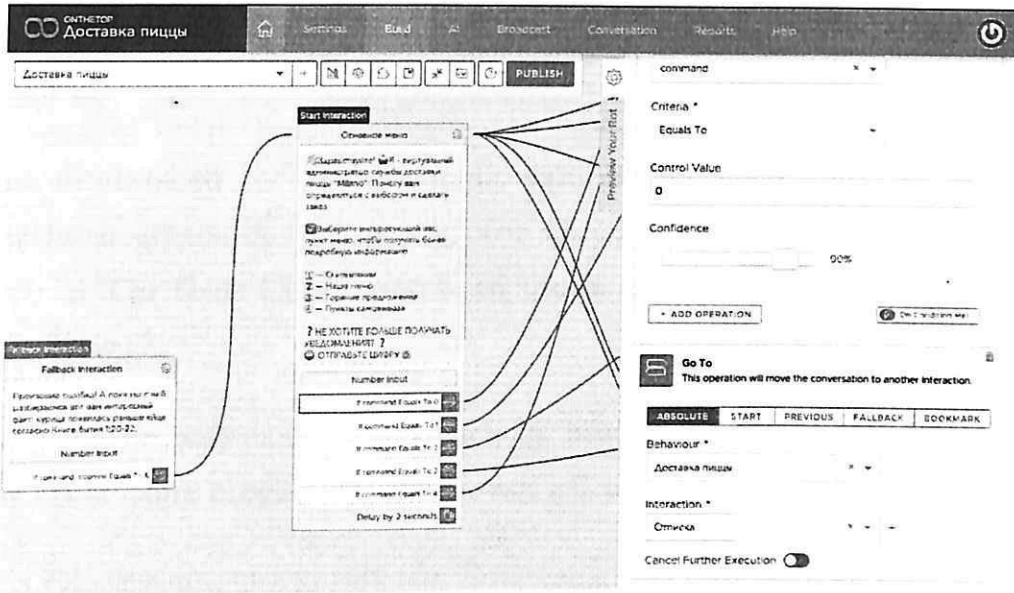


Figure 4.11: Commands of chatbot

no limits to the complexity of the chatbot you are going to build. You are not limited by a complex set of pre-defined options but you are instead building the execution of your flow using smaller and more configurable parts. As you click on an action inside an operation you will be presented with a detail panel that may look like the one in the picture below. (see Figure 4.12)

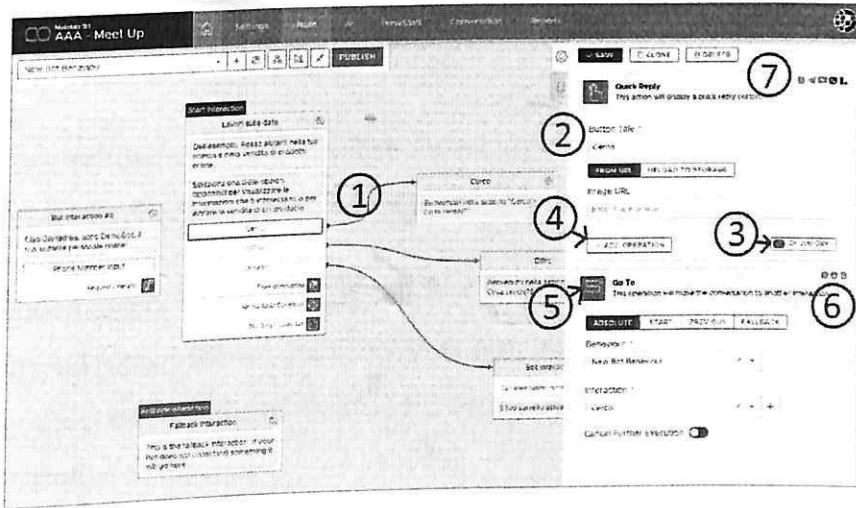


Figure 4.12: Actions and operations of chatbot

1. These arrows display flow direction. If the action redirects to another interaction you testament date line arrows describing visually the discussion flowing.
2. In this area you will get each fields and options required to configure the

selected achievement Dissimilar activities testament birth course, dissimilar grounds.

3. This diminished corner testament exhibit the event that the achievement hawthorn attack A button e.g. (or Quick Reply as it is called) hawthorn birth a "On User Click" patch an input achievement hawthorn birth "On User Input".
4. As the action moves the spark each fry functions are evaluated and executed. Not all actions birth a trigger so not all actions may contain fry functions
5. This clit testament exhibit the functions selection dialog. Not all activities can trigger functions so not all action will have this button available.
6. This is the cognitive operation cope Clicking on the operation header will shrink it: this is particularly useful when an action has several committed functions Each cognitive operation can be contracted or dilated independently.
7. This is the cognitive operation edit clit Use this clit to dispatch the cognitive operation from the action. All operations that are fry of this cognitive operation will be removed.
8. If your operation is lower in the functions listing an Up or Down clit buoy be used to move the operation up or consume the line.
9. These diminished icons testament exhibit a warning related particular channelise limitations. Using Xenioo you can make a chatbot that existences simultaneously on multiple stands however any of them hawthorn not support any particular activities
10. If an action as a red icon for a channelise it substances that it is not supported patch an orangeness icon betoken any kinda restriction You can hover the specific icon to visualize an additional tooltip.

Each action and operation has, of course, its own defining fields: refer to our complete actions operations guide for all the details.

This is how was done for this research work. (see Figure 4.13)

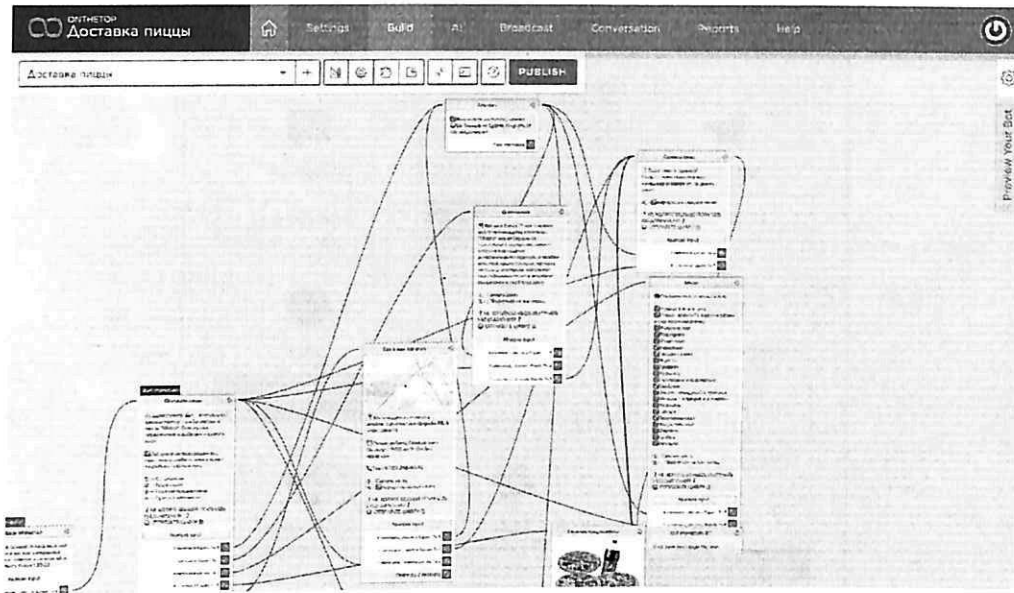


Figure 4.13: Actions and operations of WhatsApp chatbot

After developing WhatsApp chatbot on Xenioo. We have to publish it. When publishing your bot you are sending online your current flow. Your chatbot will start to reply and interact with users on each channel you've selected. Each channel has multiple specific configurations that can managed from the publishing dialog you can open by clicking on the blue "PUBLISH" button.(see Figure 4.14)

Xenioo channels are an ever growing collection of chat and voice platforms where you chatbot can endure and convey with consumers The Xenioo WhatsApp channel can make your chatbot active on any mobile number and allow you to reach billions of WhatsApp owner WhatsApp integration is done through professional providers chosen by our group amongst the most true and price effectual You're justify to select the provider that better adapts your requires depending on your budget, anticipated movement and mobile availableness Patch each of the providers mix with WhatsApp in an independent corrupt supported path your WhatsApp account still requires to be constantly machine-accessible If the designated call is unreachable, so will be your chatbot. You can choose here the provider you want to use as a gateway for WhatsApp messaging. Different providers propose dissimilar dominance at different costs. The table below is a brief recap of the currently offered providers integration.(see Figure 4.14)

Process First User Message. The first message sent by the consumer is advised by WhatsApp as the "opt-in" message. It's the substance that the user despatches you to activate your chatbot. This scene will qualify or disable the processing of

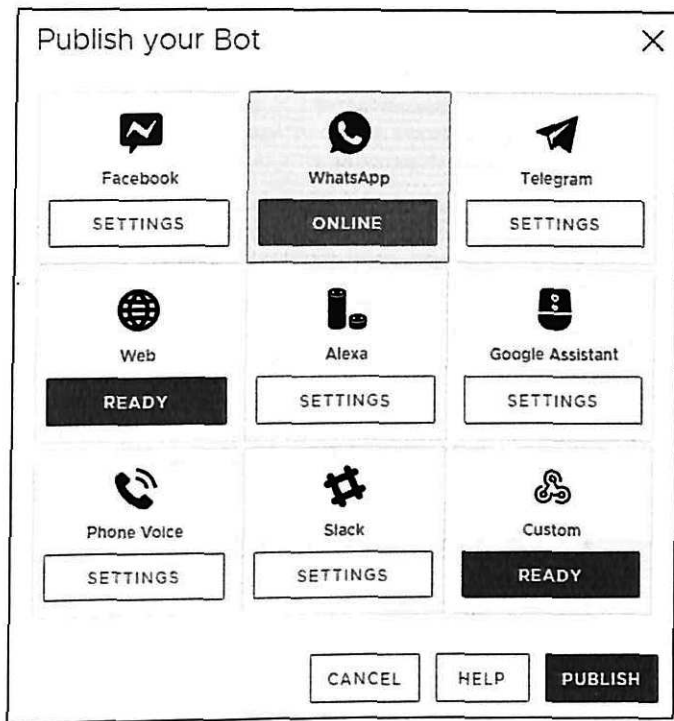


Figure 4.14: Publishing chatbot

this first message. If enabled, your chatbot will receive the first consumer text as a measure consumer text input, otherwise as a simple variable.

**Sender Phone Number.** This is the phone number that will be used for the WhatsApp integration. Typically this is your own phone number for all the providers that require a physical mobile phone or the phone number provided by the gateway.

**API Key.** This value must be filled with the provider combination API Key. Each supplier account will birth its own API Key that you will require to copy here before publishing.

**Account SID.** This information is used only for Twilio integration and is the Account SID value you can see on your Twilio account dashboard. Copy and paste the value here.

**Auth Token.** Like for Account SID, this information is used only for Twilio integration. The Auth Token is visible on your account dashboard or in the integration settings page of your Twilio account. Copy and paste the value here.

**Hook Url.** This value will be automatically filled by Xenioo and is the URL of the hook that the selected provider will call whenever a message is received by WhatsApp. Copy this value from Xenioo to the equivalent integration field you see on your provider integration dashboard.

Provider	Mobile	Integration	Expected Traffic
Chat-API	User supplied. Attached to user mobile number.	Trough WhatsApp Desktop. Integrates with standard QR scan from mobile phone.	Medium/Low
Maytapi	User supplied. Attached to user mobile number.	Through WhatsApp Desktop. Integrates with standard QR scan from mobile phone.	Medium/Low
Wassenger	User supplied. Attached to user mobile number.	Through WhatsApp Desktop. Integrates with standard QR scan from mobile phone.	Medium/low
Waboxapp	User supplied. Attached to user mobile number.	Trough WhatsApp Desktop. Requires Chrome Plugin.	Medium/Low

Figure 4.15: Unofficial WhatsApp API Providers

Provider	Mobile	Integration	Expected Traffic
Kaleyra	User-supplied. Attached to the user mobile number.	None required. No mobile phone required.	Medium/Very High
MessengerPeople	Dynamic. No user phone required. Can scale to multiple numbers.	None required. No mobile phone required.	Medium/High
Twilio	Dynamic, on demand. User can pick phone number by country. Require Twilio Approval.	None required. No mobile phone required.	Medium/Very High

Figure 4.16: WhatsApp Business API Providers

Contact Filters. In these two boxes you can specify the numbers that will activate the Xenioo chatbot. By default all incoming messages will be treated as user contacts and will activate Xenioo. Using these boxes you can specify which numbers will be accepted as contacts and which will be rejected. You are free to use multiple wildcards to create complex filters to handle prefixes or area codes.

For research chosen Waboxapp, because it is free and ease to start. To connect Xenioo with Waboapp, we should write API Token and Hooks URL.(see Figure 4.17)

In Developers tab we could check POST request and Hooks [20] of Waboxapp.(see Figure 4.18)

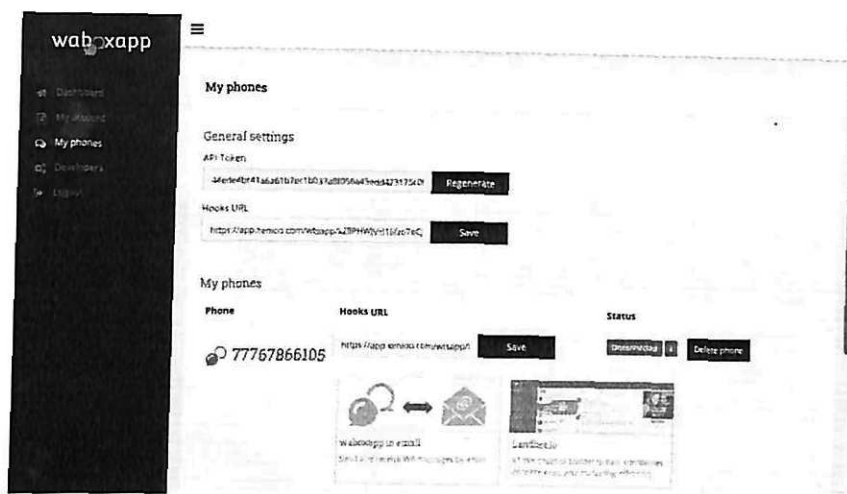


Figure 4.17: Interface of Waboxapp

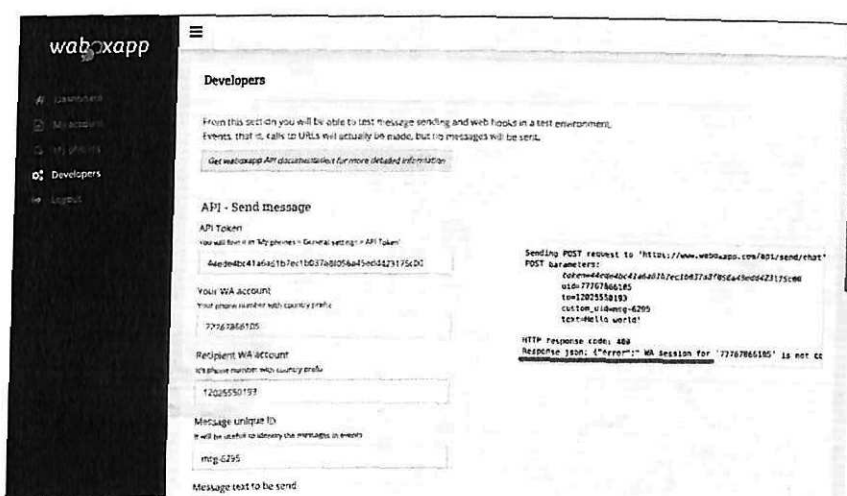


Figure 4.18: Testing POST request of Waboxapp

### 4.3 Testing

In the first picture (at the left) of Figure 4.20, we could see of how WhatsApp chat bot works, especially greeting message. This special greeting message we have to create using special WhatsApp API link. For simplify our work, we used service of Chat API - <https://chat-api.com/ru/whatsapp-link-creator.html>. Link to our WhatsApp chat bot with predefined message looks like in Figure 4.19

```
https://api.whatsapp.com/send?
phone=77767866103&text=%D0%94%D0%BE%D0%B1%D1%80%D1%8B%D0%B9%20%D0%B4
%D0%B5%D0%BD%D1%BC%20%D0%AF%20%D0%BF%D0%BE%20%D0%BF%D0%BE%D0%B
2%D0%BE%D0%B4%D1%8B%20%D0%BF%D0%B8%D1%86%D1%86%D1%8B)
```

Figure 4.19: Link to WhatsApp chatbot

In the second picture (at the right) of Figure 4.20 we could see how WhatsApp chatbot responds for commands.

For this research authors developed simple chat bot for pizza delivery, we could make it more complicated and complex, functionality depends on goals of business.

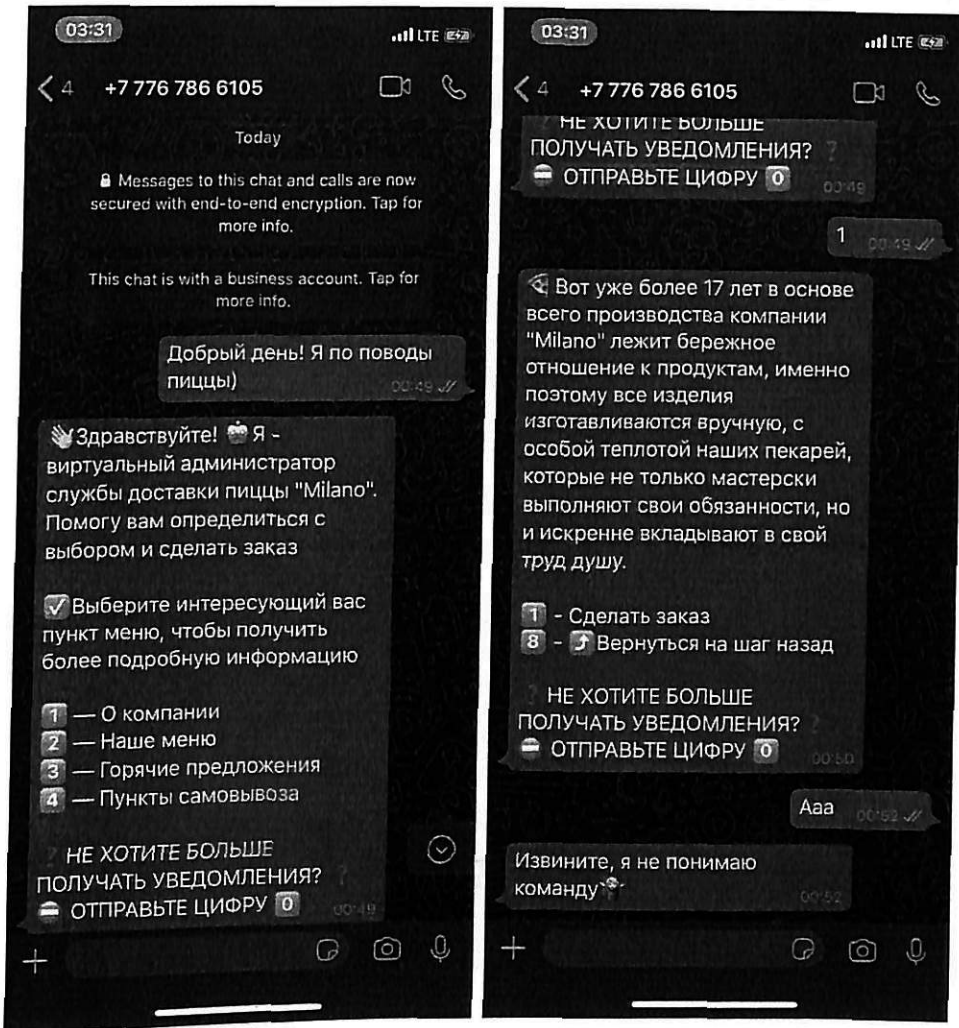


Figure 4.20: How WhatsApp chat bot works (part 1)

As the experiment we forwarded people from Facebook and Instagram ads to this chat bot. Before it was just usual WhatsApp of company, where manager answered for questions of clients only at the working hours. But companies launches ads around the clock and everyday. It means that customer could write to manager of company at anytime, it could be early morning or late night.

In the Figure 4.21 we see how many click Facebook Ads campaigns get. Totally it is 3 352 clicks and all people, when clicked to the button in the ads, were forwarded to usual WhatsApp and chat bot. And the huge number of click of ad campaigns were gotten at the evening, after 7PM till 6 AM. Using WhatsApp chat bot we have automated communication with client and managers got more conversional leads, because requests from clients were qualified and they are ready

to buy product of company. Lead processing time reduced from 1 working day to 8 minutes without losing quality.

Название кампании	Статус показа	Стратегия ставок	Бюджет	Результат	Охват	Показы	Цена за результат	Потраченная сумма	Зав...
Бизнес - Трафик v2	Включено	Минимальная цена	500,00 р. Ежедневно	995 Клики П...	52 400	68 121	1,53 р. За клик по ссылке	1 518,08 р.	Непр...
Бизнес - Трафик v3	Включено	Минимальная цена	500,00 р. Ежедневно	1 055 Клики П...	56 304	67 083	1,47 р. За клик по ссылке	1 545,97 р.	Непр...
Бизнес - Трафик v2	Включено	Минимальная цена	500,00 р. Ежедневно	946 Клики П...	78 112	91 165	1,53 р. За клик по ссылке	1 448,38 р.	Непр...
Бизнес - Трафик	Включено	Минимальная цена	500,00 р. Ежедневно	356 Клики П...	19 810	24 929	4,83 р. За клик по ссылке	1 720,35 р.	Непр...
				<b>3 362</b> Клики по...	<b>129 218</b> Пользова...	<b>251 298</b> Всего	<b>1,86 р.</b> За клик по ссылке	<b>6 232,78 р.</b> Всего потрачено	

Figure 4.21: Facebook Ads Manager

As the experiment shows WhatsApp chat bot have positive effect to customer relationship.

According the research of “99 Firms” that 79 percent of customers prefer chat for getting their questions answered quickly. Here are the benefits of customer service using WhatsApp chatbots from our research [21] :

1. Zero customer wait time
2. 24X7 availability
3. Ever-expanding knowledge database
4. Chat bots have the ability to route complex queries to human

can also announce new product launches and hand information about discounts and coupons to drive consumer date up. The data gathered by these chatbots during client interactions helps marketers develop insight on consumer behaviour and mindset – and, again, they do this at scurf

Thus, ML-powered chatbots not only aid digital marketers save money, but also check better business outcomes.

# 5. Discussion

## 5.1 Analysis of data and results

Chatbots are a feature that can truly make your site standpoint aside from the rest. Here are any dominance that chatbots have above endure chatter

- Chatbots can assist clients 24x7 and they can retain client facts In other rows clients don't birth to repetition themselves with every interplay This builds the customer feel also gratifying
- They are friendly and never mislay patience. Your clients can be furious however the messenger bot will always address your clients courteously
- They can handle many client asks for simultaneously, so the inactivity age is reduced to nil.
- Chatbots are useful in creating monogrammed notices for users which buoy advance sellings
- They birth the powerfulness to data-base client buy models This acknowledges the business to revamp their existing merchandising plan and increase sellings

According the result of test of WhatsApp chatbot, we have 5 findings:

1. Available Anytime. Consumers are often irritated when businesses but look to keep working hours. Consumers pauperism to be able-bodied to impinge a fellowship whatever age of the day or night for assistance. A chatbot can be that head of contact that buoy aid with oecumenical queries or direct social gathering to the appropriate adjustment of manipulation a also

good issue Anytime availability market-places the company as being easy approachable for consumers. Immediately scheduling the chatbot with ai answer organized whole is also essential The bot mustiness be able-bodied to answer as if it is a substantial somebody on the over-the-counter borderline eve if its only job is to buy a human client servicing spokesperson a few minutes of time to finish assisting another client.

2. Monitor Consumer Purchasing Patterns. Chatbots can be programmed to track purchase models and monitor facts from consumers. This tumuli a company which results to market otherwise which to marketplace also and which to redevelop for relaunch. Tracking answers to common queries asked by an AI generated chatbot, including predicting answers supported upon consumer lyric to direct the bot to offer a better production or servicing to the consumer. This case of monitoring attacks into merchandising as the chatbot is directed to use answers and upselling ways to increase sellings and lure consumers to try dissimilar results.
3. Natural Language Communication. A chatbot needs to talk and case care a real somebody Consumers pauperism to believe they are speechmaking to a real somebody That substances that a chatbot requires to be programmed to respond specifically to direct answers from consumers, and offer the right results for their requires If a consumer is contacting the fellowship with a complaint, a chatbot should be able-bodied to distinguish the issue and go a worthy closure much as production substitute Artificial intelligence can be used to reorder the production and send it off to the consumer patch archiving the conversation and tracking the inventory right This market-places the company as efficient, amenable and has the consumer's better concern and fulfilment in judgement
4. Converting Data to Personalized Advertisements. A chatbot should be able to separate a customer's first name just through the launching form The customer should be addressed by his or her first discover for the duration of the sitting It is a good estimate for the bot to ask the consumer to hold a moment to research an appropriate resolution During that keeping flow a personalized ad should caper that acquaints a new product or service and including the consumer's discover in the text a couple of times.

Monogrammed notices oft change to sales. These nears exercise good when contrived brainpower is victimised to rake former consumer interactions or purchase accounts with a brand to ensure that the production or servicing beingness organized is something the client rattling requires

5. Simple Self-Marketing. It may look strange to use a chatbot for marketing objects but by but manufacturing a chatbot available on a company site – it’s merchandising The more available your make is the better consumer feel and satisfaction ratings testament be. Also word-of-mouth suggestions and social media sharing of cognitive operation testament hap – creating higher conversion rates [22] .

## 5.2 Contributions

Perhaps the most significant evolution we’ve seen with chatbots is their use in helping brands nurture leads and drive conversions. According to Instabot [23], companies that utilize chatbots generate 33 percent more leads in comparison to those that use traditional contact forms [24] (see Figure 5.1): For many forward-



Figure 5.1: Chatbots generate 33 percent more leads

thinking businesses, chatbots represent an inexpensive opportunity to automate and drastically scale their customer communications.

To understand how chatbots can help you increase conversions and land more sales, you have to first understand what the basic sales funnel looks like. (see Figure 5.2): As with creating content or lead magnets, you want to be highly strategic

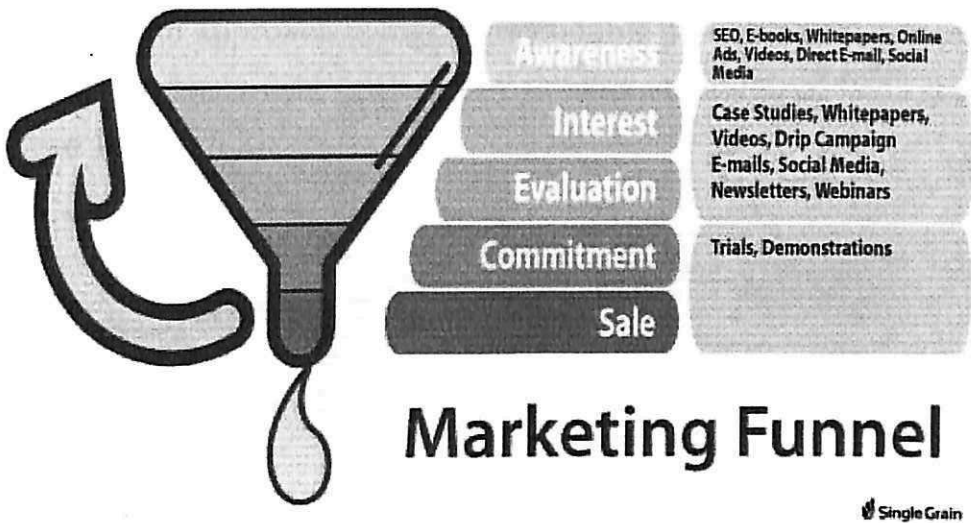


Figure 5.2: Marketing funnel

when it comes to your chatbots. While you can theoretically add a chatbot to your website and call it a day, you'll be missing out on loads of potential leads and prospects.

To really take advantage of chatbots, you need them to engage at whatever stage of the sales funnel each your prospects is at.

Now most large-scale conversational AI agents (e. g. Alexa, Siri, or Google Assistant) are reinforced using manually annotated facts to develop the dissimilar components of the process. Typically, the accuracy of the ML models in these components are built by manually transcribing and annotating facts. As the telescope of these organized whole growth to covering also scenarios and realms handbook notation to improve the accuracy of these components turns prohibitively dear and time-consuming. Therein paper, a group of Amazon researchers aim a system that leverages user-system interaction feedback signals to automate learning without any manual notation. Users here tend to qualify a former question in hopes of fixing an error in the former act to receive the right outcomes. These reformulations, which are oft preceded by defective contacts caused by errors in ASR, NLU, ER or the application. In some boxes consumers hawthorn not properly develop their asks for (e. g. providing that provided that limited style of a song), but

gleaning athwart a wider kitty of users and sessions exposes the implicit repeated models The proposed self-learning process mechanically uncovers the errors, father reformulations and deploys affixes to the runtime process to rectify dissimilar classes of mistakes occurring in different components of the system. The results established that the approach is highly ascendable and able to memorize reformulations that dilute Alexa-user mistakes by pooling anonymized facts across billions of clients.(see Figure 5.3):

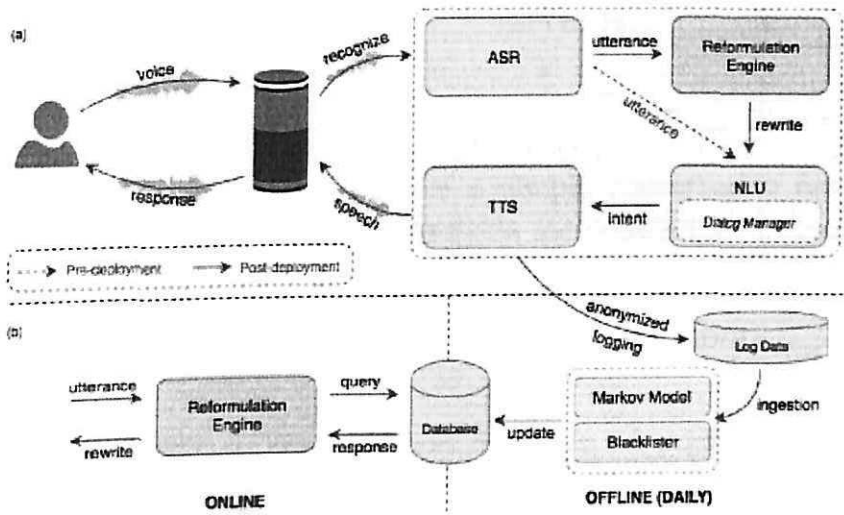


Figure 1: A high-level overview of the deployed architecture with our reformulation engine in context of the overall system in (a) and the offline sub-system that updates its online counterpart on a daily cadence.

### Figure 5.3: Architecture of conversational AI agents

Towards conversational agents that are capable of handling more complex questions on contractual conditions, formalizing contract statements in a machine readable way is crucial. However, constructing a formal model which captures the full scope of a contract proves difficult due to the overall complexity its set of rules represent. Instead, this paper presents a top-down approach to the problem. After identifying the most relevant contract statements, their underlying rules are modeled in a novel knowledge engineering method. A user-friendly tool was developed for this purpose allows to do so easily and at scale. Then, the statements are exposed as service so they can get smoothly integrated in any chatbot framework.(see Figure 5.4):

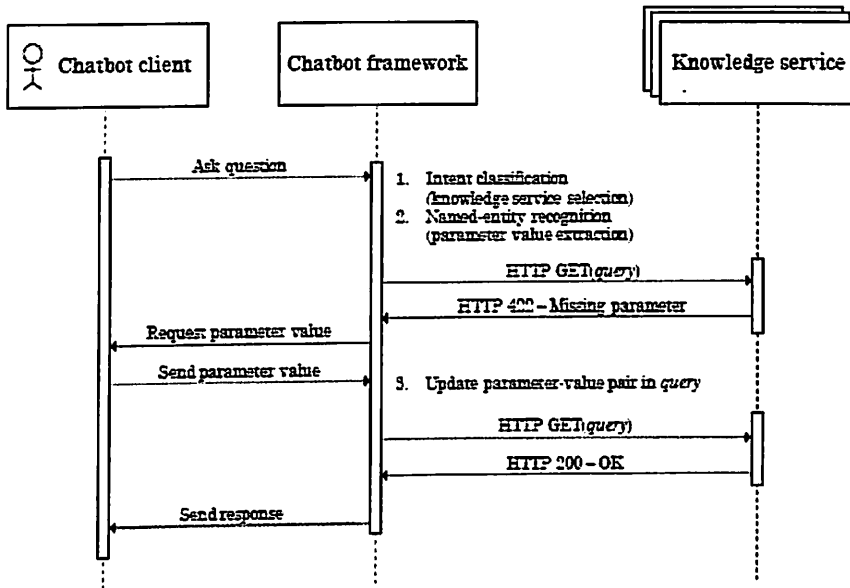


Fig. 1: A sequence diagram of a sample conversation flow. The knowledge service incorporates the contract statement.

Figure 5.4: Sequence diagram of chatbot

## 5.3 Implications for digital marketing

The author analyzed the collected examples and synthesized how these examples reflect the marketing structure. The findings are presented in Table 1. Each proven example shows that AI affects every area of the marketing program. This penalty is especially important for practitioners who are responsible for developing innovations, since AI affects the entire spectrum of marketing activities. In addition, AI applications that extend the core product require an innovative design approach to find ideas that fit ideas that go beyond a product or even a category. This is important for the implementation of AI in the field of "product" and "promotion" in the marketing mix program [25].

The analysis of the collected cases shows that AI activities have a two-way impact on marketing. On the one hand, the consumer is the beneficiary of the changes, but on the other hand, new solutions affect all ongoing marketing activities.

AI is never going to be perfect. There will be instances where an AI will require a human's remark for new scenarios. This could be a client presenting a problem it's never accounted for, attempting to answer to a troll irritating to batch with it, or even something as simple as wrong grammar. As your AI is always

Product	Price	Promotion (Brand)	Place (Sales and Distribution)
New product development	Price management	Creating a unique experience	Convenient shopping
Hyper personalisation	Dynamic price matching to customer profile	Personalised communication	The faster and simpler sales process
Automatic recommendations		Creating the wow factor and offering benefits	24/7 customer service (chatbot)
Creating additional value		Elimination of the process of learning product categories	Purchase automation
Additional solutions beyond product category		Positive impact on the customer	Service-free shops
		Minimised disappointment	Consultant-less customer support
			New distribution channels
			Merchandising automation

Figure 5.5: Areas of the impact of AI on marketing mix

working and constantly eruditeness which so orders someone to be available to oversee it. You can't fair allow to your AI run wild and expect it to address all on its have you'll pauperism someone who can guide and direct it, and step in if something goes wrongfulness That substances having a process in position where particular workers testament be contacted and anticipated to aid outside if the AI requires aid each hours of the day, which is titled human-in-the-loop. If you don't birth a supervisor retention an eye on your AI, you run the risk of it leaving rogue. Thither won't be a automaton rebellion but it could resolution in unhappy clients or befuddled conducts contingent what your chatbot is doing. Thither is a caveat to the "always-working chatbot. " If the power goes out where the chatbot is housed — if it's in a server in the place or athwart the ball — your chatbot goes with it. Similarly, Internet outages still happen sometimes and natural disaster can cause connective issues affecting an entire land

## 6. Conclusion

When it comes to marketing management, AI has a significant impact on contemporary practices, and will surely require a new approach to tasks fulfilled in marketing teams: Elimination of laborious and time-consuming activities. AI automates routine and repeatable tasks (e.g. data collection and analysis, image search and adaptation/processing). Bigger significance of creative and strategic activities. Precise analyses performed by AI increases the role of creative and strategic activities to build competitive advantage. Developing new competences in the marketing team. AI requires incorporating data scientist skills as well as an understanding of the new technology possibilities in the marketing team. A new marketing ecosystem. The complexity of AI increases the role of companies producing AI solutions. Due to the current level of AI advancement, there is a need to develop a new model of cooperation with AI entities offering data engineering or ML tools.

Chatbots should be used sparingly and in a way that will benefit both the customer and the business. While these utilities are great for consumer relations purposes, real humans should be at the helm at least some of the time. Companies using chatbots as back-ups to real online representatives have a better ability to market new products, sneak in promotional materials and upsell customers.

The difficulty of chatbot creation is not the implementation but the design itself. First, you need to figure out what the purpose of a single function will be and then you need to plan the conversation in detail. You have to control the conversation, but you also have to keep an eye on what happens when someone leaves it. With a little patience and some very basic tools, you can set up your own chatbot by following the above-mentioned tips.

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