

# Artificial intelligence in real-world business

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Generally, the term **AI**, an abbreviation for "*artificial intelligence*", is known by most people in some way. Today, unfortunately, the distinction between AI and a classification algorithm is negligible, hence leading to much confusion and misuse around the actual term, which is why the definition of AI will not be specified in this paper.

AI will become such an important tool for marketers, a world without will seem abstract. Marketers will have more options to reach and convert potential customers and maintain that relation, thanks to true data-driven customer insight. AI will not only affect marketers but also customers, transforming the landscape.

Artificial intelligence is the study of how to make machines intelligent or capable of solving problems as well as people can. — *How AI and machine learning affect marketing*

**Artificial Intelligence** synonymous with *machine intelligence* is defined as intelligence demonstrated by machines. In its definition, the core aspect is, that it is a non-*natural intelligence*, which all animals and plants demonstrate. Machine intelligence's objective is it, to perceive its physical placement within the physical world, besides solely interacting with virtual agents, and furthermore maximising the success probability of a pre-determined goal.

A **neural network** is the physical/virtual representation of an AI, a bunch of simulated or even actual synthesised neurons that are fed binary signals. To understand their advantages over natural intelligent agents, the reasons for their differing should be observed, which is basically the number of input variables available, which affects speed, storage capacity but also relativity to nodes within a network and creation of connections. Artificial intelligence made its way into the books as a term, but mostly it's not comprehended. AI is a very technical thing, but it does not need to be, learning AI will improve itself and will try to adapt the user interface and how to control it to the user.

**Chat-bots** are a possible application of AI or similar technologies. A chat-bot is defined as a simulated conversational entity as closely optimised as possible for human interactions within the scope of *speech and language*. Chat-bots are a sub-category of AI but do not require AI technology at all (see *SIRI* having been introduced before the popularisation of AI). As the general AI, a chat-bot is designed to improve over interaction. Chat-bots, as AI's do, improve after every interaction, not after a given time period such as people do. That enables AI to be *trained/improved* significantly faster, but less reliable, by simulating millions of interactions of real-world situations, in the time span of seconds. Chat-bots are a great tool for marketers to improve and increase sale-ready-leads and even execute sales automatically or they can be used for conversational informational purposes such as a support platform. Chat-bots offer marketers to individualise online interactions with (potential) customers at a human interaction level. Support platforms have always been a pain for customers, chat-bots could change that

and create many new possibilities to utilise in marketing.

**Smart content curation and AI generated content** are applications of AI in marketing, mainly focusing on the aspect of generating the reach needed for having an effect on potential customers. The *RACE* (*react, act, convert, engage*) model, illustrates the marketing process from the generation of content over to the loyal customer maintenance. The two applications belong within the category of reach, for above reasons. Smart content curation describes the process of adapting content to various parameters, such could be past preference or the content you are taking in at a specific time. An example of smart content curation could simply be an AI that gives you songs that you might like based on songs you like and what the aspects are they have in common.

*AI generated content* is a relatively new topic, as so far the creative and perfectionist work of a human mind was simply seen as more sophisticated, but by now there are some very interesting tools available. An example could be an AI designed website ("[thegrid.io](https://thegrid.io)") or abstract architectures people didn't think about yet. AI generated content is in its early stages, but it can be a useful tool and very cost effective, considering the prices for humanly designed art, and it's reusable and scalable. AI generation is often a very good tool, considering that not only websites, but pictures, texts, templates for invoices, automated, content-rich and dynamic emails, but this application especially shines in engineering and arts, where AI generates unseen content.

**Lead scoring, predictive analysis and ad targeting** are very important AI applications and aspects for successful digital marketing. Imagining a small business, that utilises *Shopify* at its lowest capabilities is 9\$/month, what you get, is a conversational chat-bot build on top of the facebook messenger platform and the ability to integrate products into your website. For the small business, these capabilities offer greater reach and sale-ready-leads, better customer experience and it also comes with a complete analysis tool, giving information about customer behaviour, predictive analysis based upon analysed past behaviour and can be based on the interactions made with the customer analyse and compute probabilities and hence, score leads one might want to manually engage. Critically evaluating the effectiveness, henceforth ROI, of these methods seems easy, as every cost/price ratio is great and the capabilities gained can have a significant impact on the business' performance.

*Ad targeting* is another application of AI in marketing, where AI brings better personalisation to ad platforms. AI-based ad platforms have higher engagement rates and higher conversion rates as the content is better adapted to the environment, preference and many other factors. AI is also exceptionally well at identifying trends, making the application in advertisement especially interesting, as trends can be identified by the AI and target groups automatically engaged. Now considering the *RACE* model, these would be three examples of how AI could be applied in the *acting* stage of the model. The three application are important tools for marketers having a customer convert from the purchase intention state into the first purchase state.

**Predictive customer service and dynamic marketing automation** are applications of AI in the latest stage of the *RACE* model and act towards keeping loyal customers, maintaining customer relations and convert more repeating customers. *Predictive customer service* is an application of AI, where the AI predicts certain actions from a customer. As an example, contact lenses can be considered. An AI driven customer service could predict when the supply of lenses needs a restock and could even link data from your phone or medical services to

automatically update the prescription, in any other example, AI could also adapt recommendations for similar products to customers preferences. Predictive customer service, though also embeds support, where AI in the predictive sense can increase guess rates of what a customer may need. As an example, here an intelligent system having AI driven contact systems can maybe put an end to awfully automated computer voices at most support platforms.

*Dynamic marketing automation* describes an automated system, which dynamically performs marketing operations, dynamically depending on a person applied to or a topic that should be promoted. AI can do interesting automation nowadays, being able to automatically run a complete begin-to-end marketing system. As for now, only the end part of automated marketing is of relevance, focusing especially in keeping loyal and returning customers up-to-date and engaged. An example of how this could arise, is a newsletter dynamically displaying and recommending items from a new fashion brand's collection, most relevant to you, based on your previous interactions with that brand. The application of dynamic marketing automation is very efficient, when continuously utilised, as much effort and labour time can be spared.

**The Implications for data and privacy** are immensely under-estimated and not enough understood. Data is everything. Not only what you do on your computer/mobile phone is data, but where you are in the physical world, the time, the people around you and your surroundings, to list a few very real data examples. These examples are a pinch out of the ocean of what else is also being recorded. By cross-referencing data and applying mathematical models, the data relative and connected to your immediate surroundings is exponentially increased per parameter. Just by having the time and the location of an agent, gives free information about humidity, weather, live news, battery charge, whether or not the signal is strong indicates more detail about the location etc. The possible information to be extracted from the simplest data requests is unimaginable and ever-extendable. The simplest example is the change from *touch-id* (finger print scanning) to *face-id* (face scanning) in *Apple's* products. The information required for a face scan is out of the magnitude of a finger print scan. Another example could be autonomous vehicles and how their AI's are being trained. Businesses use a lot of data to feed an AI of how its done correctly, for it to replicate the actions. By introducing this example, the implications for data should be clear, AI is dependent on it.

AI's greatest strengths in contrast to a regular computer program is the ability to relativise better and contextualise better, hence data basically gets more properties, making it the AI more complex and hence faster. The more data AI acquires, the stronger it gets at what it is doing. For privacy, this could have immense effects, considering that AI could be used to break encryption or hack communication or data storage facilities, exposing a lot of private data. These scenarios are important to observe, because the implications for data and privacy of AI are rather significant.

Information is the enemy of privacy, but a catalyst for knowledge and data. The two variables are in an inversely proportional relationship, making the implications, as stated for data and privacy, massive. *Artificial intelligence* will acquire more data faster over time, ultimately and inevitably reducing privacy to an extent.

**Winning companies in AI marketing** will separate themselves from the median, as being more efficient in cross-referencing data and more effective in relativising data. That is so important and the reason for advantage, because the collection of data itself won't be a competition between the median companies instrumentalising artificial intelligence for marketing. AI technology makes interactions easier and more instantaneous, and will hence, because of the advantages of the application of AI technology brings, raise consumer expectations in the long term and steadily increasing. That will separate brands, as the resources required are not accessible for everyone yet. Also the raise in consumer expectations brings up the total level of consumer expectations of their experience as a customer. Therefore, an additional general extension in effort, time, money and labour can be expected. AI technology could come in the form of conversational AI or chat-bots, in use cases such as an online-support platform or a conversational commerce platform. These examples, especially conversational commerce are extremely effective, as multiple sale-ready-leads can be created instantly and continuously, and scale increases, positively affecting reach and reputation, both essential aspects for a brand and company, despite, they are rather resource intensive and need maintenance, making the gap further between classified brands. Another very important factor to consider, contributing to winning companies in AI marketing, is how relevant brands stay or become, when they experience continuous scale. With AI the personalisation of advertising can achieve communication at a level of billion leads easily. Furthermore, campaigns can be directly aimed at individuals or target-groups, and relevant to their surroundings, interactions and selfs. AI has many technologies to bring with, each of them capable of separating one brand from another. Brands can become more specialised or more expansive and reach scale. The winning companies in AI marketing are those, who utilise artificial intelligence in such a way, that the objective of optimisation is achieved, separating that brand from others, where multiple objectives exist.

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