# AI-Powered Omnichannel Marketing

agillic

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# Introduction: The Age of the Consumer

Artificial intelligence is the alpha trend in technology right now and is having a sweeping impact on how marketing organisations work and approach customers. AI is not new, but due to a series of converging conditions – wide availability of machine learning and advanced analytics; an abundance of data; and affordability of raw computational power – AI has gained momentum and is today a technology with substantial transformational impact.

Another significant trend for marketers can be summed up as “The Age of the Consumer”. At its core, this is all about putting the customers and their expectation of individual treatment first; reaching them with a relevant product, or a personalised message; and doing so at the precisely right time. To achieve that, you need to be able to leverage data in a continuous “collect, analyse, and act” process: AI is the differentiator that can make those actions smart ones.

Naturally, AI has triggered a lot of speculation as to what the future will look like. Some are concerned that AI will render jobs obsolete. It is an understandable concern. It is fair to admit that some job functions will disappear, while existing roles will change and take on new directions. However, it is essential to make clear that AI and humans have different strengths and as such are not in competition with each other, but rather assist and support each other in a collaborative manner.

Many business leaders acknowledge that AI has the potential to drive growth and bring significant business value to their organisations. Few, though, are confident that they know how best to bring AI into their operations and attain that value. This whitepaper will discuss how machine and marketer can work optimally together in the age of the consumer, and how brands can drive growth and create loyalty from AI-powered, personalised marketing communication applied throughout the customer lifecycle. A case study from a major retailer will illustrate how AI-powered customer journeys generate significant results and a competitive edge. And as a service to you, we have compiled a glossary explaining the meaning and context of some of the concepts associated with artificial intelligence.

We hope you’ll be inspired to venture into AI-powered omnichannel marketing and reap the benefits it provides.

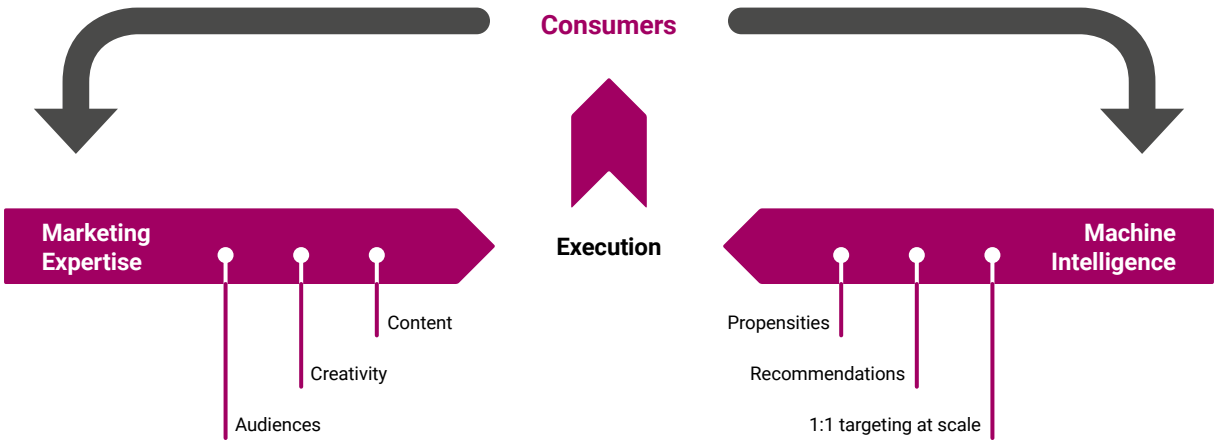
**Colin Shearer**
Chief Business Development Officer
Agillic

# Data is the Lifeblood of Modern Marketing

One-size-fits-all communication is increasingly being ignored. Consumers are craving relevant and personalised communication, and failing to deliver content deemed to be relevant is costly: as a direct result of poorly targeted communications, one survey showed that 69% of consumers unfollow brands on social media channels, the same percentage close accounts, and 55% delete apps. By contrast, the survey found 52% of consumers were willing to share their data to receive offers relevant to them.*

Data is the key to delivering relevant and personalised content and consciously or not, consumers are supplying an overabundance of data. Through every event, email click, transaction, and website hit, they reveal something about themselves. This data has the potential to support granularity well beyond traditional segmentation, enabling the ideal of true 1:1 marketing with personalisation down to the level of the individual. However, making effective use of this data is challenging: sheer scale and complexity make it exceptionally hard for humans to explore it manually, identify essential insights, and transform them into action.

What AI brings to the table is complementary to what marketers do best. It can free their time to be creative, saving them from time spent on data-based tasks – attempting to elicit customer insights, and to target campaigns and offers effectively – which are increasingly difficult for them to handle effectively as the levels of complexity, scale and change continue to increase.




**Human creativity, AI precision and automated execution: How relevant, individually personalised communication can be delivered at scale.**

** The Rise of the Deletist Consumer. www.mycustomer.com*

# AI Thrives on Volume and Complexity

Artificial intelligence thrives on the volume and complexity of data. It automatically finds key characteristics, patterns and relationships, and from these learns to make accurate predictions:

- about which customers will be susceptible to which offers
- through which channel they'll be most receptive to receiving it
- which way of presenting it will hook their interest
- and at which time they'll be most likely to respond positively.

This combination of data attributes and predicted propensities gives a unique profile for every customer – the enabler for genuinely personalised marketing. Segments still feature but these, generated by automatic clustering algorithms, are more subtle and complex compared to the a priori rules marketing typically uses. And it's no longer a case of reducing an individual to just which segment they're in. AI can auto-segment the same customer base in many ways – for example by purchasing behaviour, channel activity, or demographics – and for each customer, membership of clusters simply adds to and enriches their unique, individual profile.

## There's analysis... and analysis

Attempting to extract value from data is nothing new, but the value has increased as analytical approaches have developed:

Descriptive analytics includes traditional statistics, but in business is more likely to be calculations on spreadsheets, queries against databases and business intelligence (BI) reports and dashboards. These all provide a "rearview mirror" approach: a view of what has been going up this point in time. BI will often aggregate data up to key performance indicators (KPIs); it is up to the user to drill down into these KPIs, manually exploring the data to find any relevant underlying patterns.

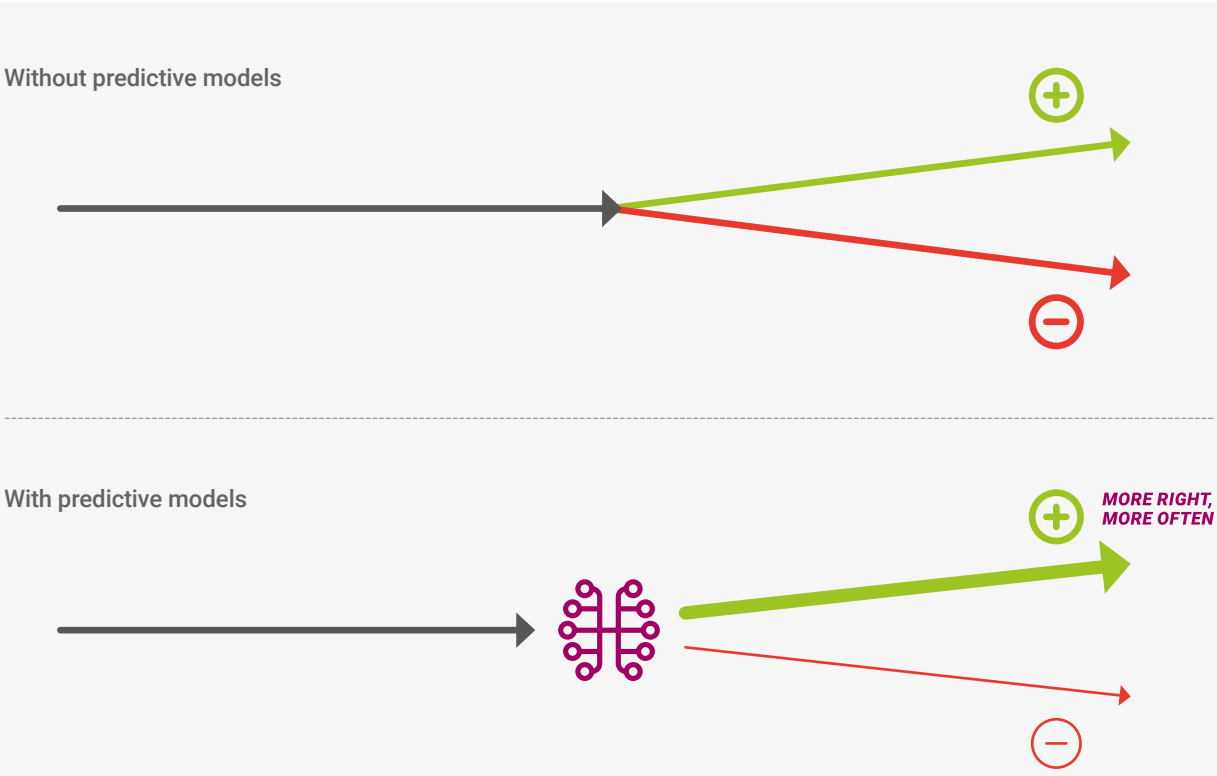
Predictive analytics also starts from historical data, but in this case, machine learning algorithms automatically explore that data to find underlying patterns and relationships that help predict specific business outcomes, such as the propensity of a customer to purchase a particular type of product. These patterns are insights that marketers can use, but the algorithms also produce something directly actionable: predictive models which can assess any current or new case, and automatically predict its outcome. Predictive models return a simple assessment
for each case, often a number which is a propensity or score.

Prescriptive analytics turns that into a directly actionable decision, by combining that score with business logic to decide the opportune thing to do in each case (e.g. whether to deliver an offer, what that should be, and through which channel it should be delivered).

# Keep Your Marketing Current

The world is changing more quickly than ever. Even if marketers can overcome the challenges of scale and complexity and manage to understand their market and their customer base perfectly, their knowledge will be out of date next year. Or in six months. Or in some markets, next week.

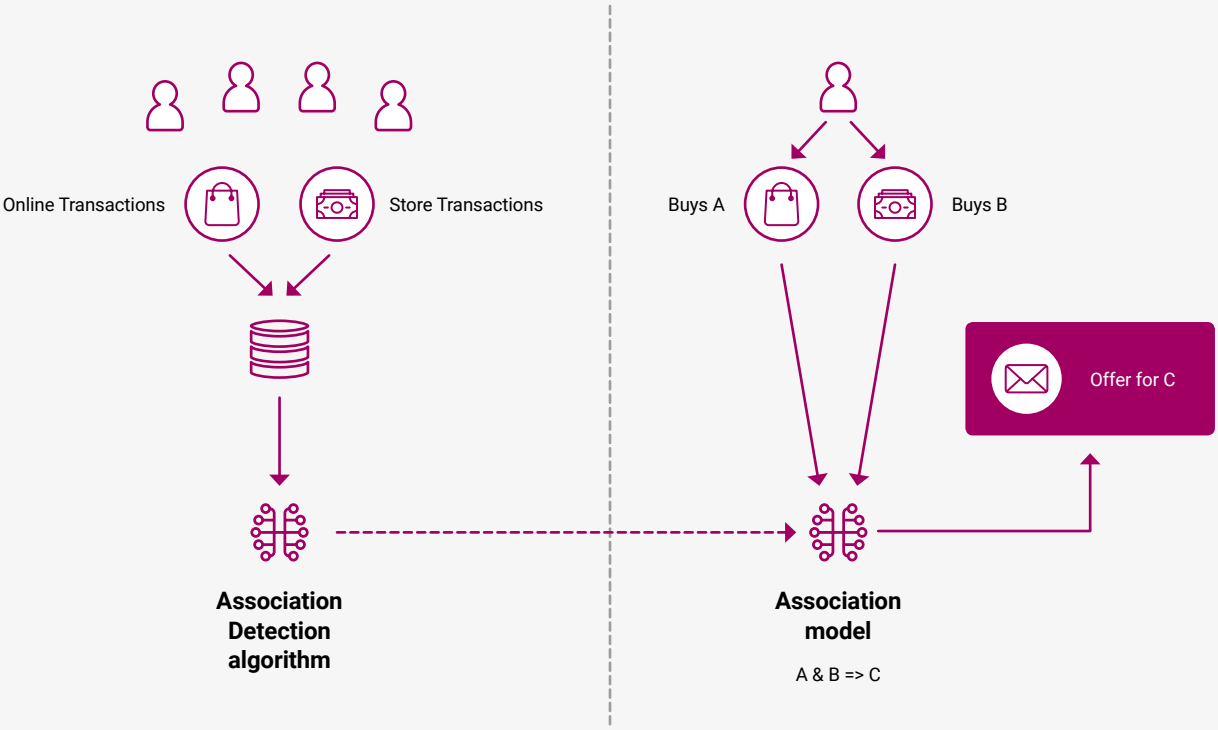
This is where we see the power of technologies that are data-based. AI continually monitors the latest data and quickly learns the patterns of emergent customer behaviour, modifies its predictive models, and ensures that its decisions and recommendations are always up to date.




**Inserting predictive models into key decision points in the customer journey tips the balance towards positive outcomes and away from negative ones – making the decisions "more right, more often". With every decision having a greater probability of success, incremental ROI is accumulated on an ongoing basis.**

# Design, Develop, and Fine-tune Messaging

AI doesn't just learn ways to predict and act on customer preferences. As it does so, it's unearthing insights that can help marketers design and develop their content to be a perfect fit. Cluster analyses show what groups there really are in the customer base; marketers can design offers that specifically target these. Profiles – data signatures that distinguish likely responders from non-responders – can help them fine-tune their messaging. AI can find associations between sets of products often bought or owned together, used to automate cross-sell of "missing" products. And AI can discover sequential patterns over time, so marketers can understand actual customer journeys and create content to address the customer at key points on those.




**One of the simpler applications of AI to marketing, association detection, in use. The machine learning algorithm works from a comprehensive history of purchases across customers and channels, and produces a model trained to recognise a range of purchase patterns (e.g. "people who buy A and B also tend to buy C"). When the model recognises a customer showing one of these patterns, it triggers an action to promote the "missing" product to them.**

# Maximise Engagement Throughout the Customer Lifecycle

AI can help marketing excel across the different stages of the customer lifecycle. By ensuring the right actions are taken, at the right time, for each customer, it enables organisations to get the maximum value from their customer base.

## Attract

AI adds precision and efficiency to the acquisition phase. Though organisations have access to much less data on potential customers compared to actual ones AI algorithms can learn, for example, the most promising sources of customers, and what will best persuade prospects from each source to engage. It can identify the best profile (based on publicly available data) to target in a particular channel and select prospect-matched offers to maximise interest and conversion.

AI can also analyse the journey a prospect takes, from initially seeing certain information, through exploration of a website and on to the initial purchase. Intelligent systems can spot early in that journey that a prospect is the right "shape" to become a customer and trigger proactive guidance that steers them quickly to conversion. Smart systems can also identify paths which lead to prospects leaving the website – abandoning their search and baskets, or simply jumping to external pages – and sites can be re-designed to help minimise the risk of this.

## Grow

Once customers are on board, they generate extensive data that can be used to understand how best to handle them as individuals. As well as any demographic information they declare, patterns become visible in their behaviour – how they buy products, and in some cases how they use them. AI learns to recognise the signals that a customer is ready to buy more. That might be by identifying replenishment cycles – how frequently each customer repurchases more of the same or a similar product. Or, from "basket analysis" of purchases, knowing which associated products are likely to appeal. Share of wallet analyses can provide clues that the customers are spending money elsewhere and suggest which offers might help take additional share. And when a new product is launched, AI can recognise – based on past behaviour and predicted preferences – which customers it will appeal to, and how best to pitch it to them.

Value growth also comes from up-selling: recognising when a customer is ripe for upgrading to a premium product. AI can identify the profiles of those with the potential to spend more, or spot those whose behaviour is changing with a similar trajectory to those who previously went through the upgrade process.

### Retain

With its deep insights and ability to predict, AI can ask, for every potential leaver: Are they really at risk? Are they worth keeping not just from past or current spend, but based on predicted lifetime value? Can they be persuaded to stay? And if so, what offer would be most effective? Based on that level of knowledge, AI can assess the potential leavers, and decide what actions to take, towards which customers, allowing marketing to use its retention spend effectively.

There are wins to be made in each lifecycle stage, but AI can also provide insights about customers and apply them across the phases of the lifecycle. For example, AI can learn the profile of customers showing highest growth and apply that in the acquisition marketing, so the acquired customers have a higher value potential. And if customer loyalty is found to be strongly associated with particular products purchased, offering those products to more customers might reduce potential future loyalty issues.

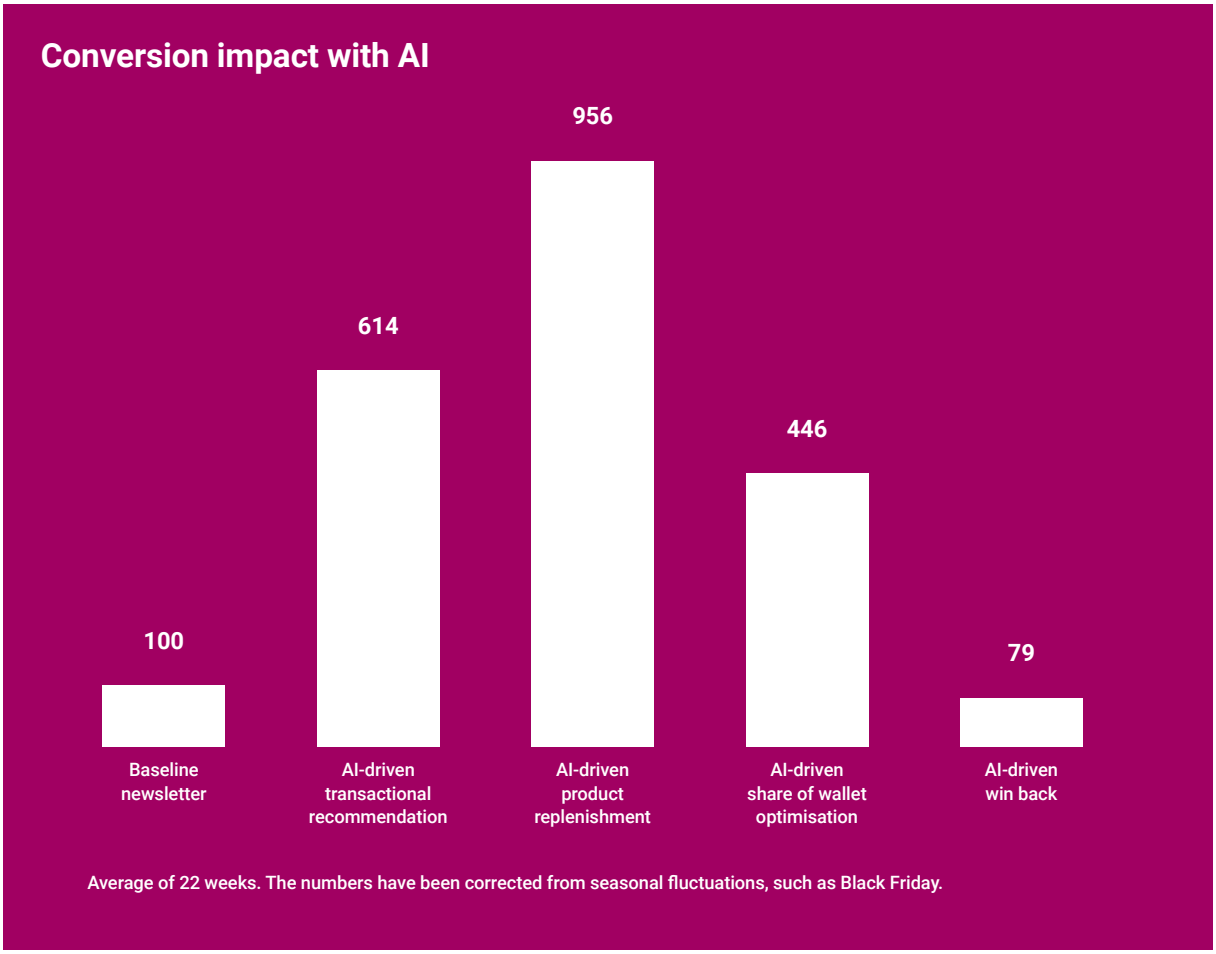
## Case: AI Matches Customers and Content for VITA

From a consumer perspective, AI provides a more meaningful relationship with a brand during the customer journey, as well as a higher level of relevance. Increasingly, the communication becomes a service that the customer is interested in and less of a disturbance that the customers will protect themselves against.

The Norwegian retailer, VITA, a major provider of cosmetics and skincare products, has applied Agillic's AI-driven customer journeys to boost the relevance and timeliness of their customer communication.

On average, VITA sent two weekly newsletters with offers that delivered good results. We calculated the average conversion rate and established it as a baseline (index 100). When VITA deployed AI to their email communication to e-commerce customers, the conversion rate improved markedly in four select types of communication:

- Emails with transactional recommendation convert with index 614
- Emails with product replenishment convert with index 956
- Emails with the specific intent of increasing share of wallet through cross-selling convert with index 446
- Win-back emails, even though sent to inactive customers, still convert with index 79




Among other things, VITA tested whether the AI-enriched communication could, to a higher degree, motivate their customers to re-purchase products. For example, based on the individual replenishment cycles the AI has learned, the customers were offered shampoo when the probability of the individual customer's re-purchase was high. The conversion rate increased significantly, and VITA achieved 9x better results when using this type of AI-driven communication on repeatedly-purchased products. This example shows that the AI models can exactly match individual customers with the right product at the correct time – and it can do this for many customers on an ongoing basis. Based on recommendations from the AI, VITA only approached those customers where the probability was high that they would find the shampoo offer relevant at that moment. Furthermore, the AI-based insights were used to influence the creative messaging to directly address the reason for the communication.

VITA used the same principle in connection with getting the customers to buy completely new products (share of wallet). Whereas traditional communication without AI was successful in getting one customer to purchase a product, AI-driven communication generates 6x the sales.

The results from VITA illustrate the effect that companies can achieve when using AI-driven customer journeys, as well as relevant and personalised communication.

# Agillic's AI

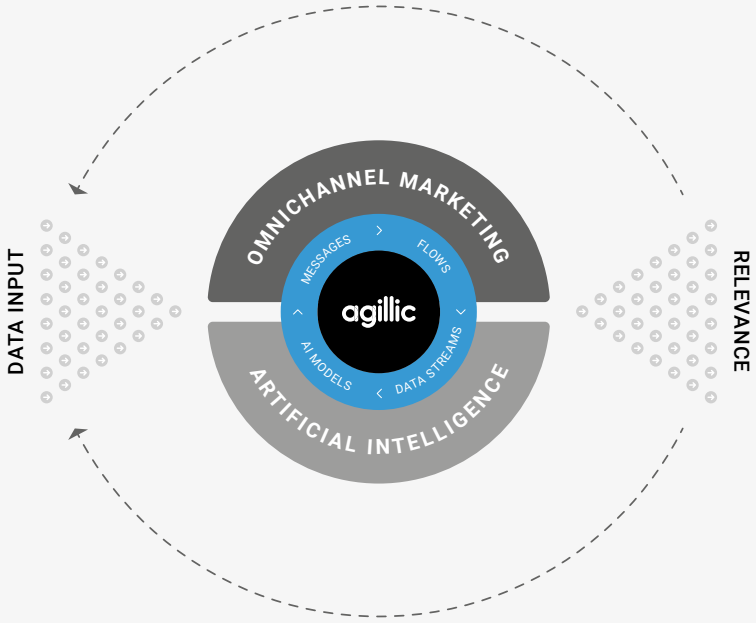
Agillic's AI capabilities are packaged as a set of modules or customer journeys that inject intelligence into interactions at key points in the customer lifecycle. The modules combine machine learning models trained on customer data with a sophisticated logic that turn predictions of purchase propensity, product preference, etc., into recommendations for the most appropriate actions. Generic AI capabilities work across the set of modules, providing functionality such as send-time optimisation and channel selection based on customer preference.

To use Agillic's AI, select the set of modules most relevant to your business. We help to connect the modules to your data, we train your machine learning models from historical customer data and validate the performance of these, and configure them around your marketing campaigns, content, and offers. When the system goes live, Agillic's Customer Marketing Platform execute actions based on the AI modules' recommendations. Responses and conversions are tracked, and the value obtained measured and reported.

Our approach is incremental, and typically companies start with a few selected modules. Progressively, the set of modules deployed is expanded, each new module generating incremental value. And as the deployed modules continue to learn, they are continually fine-tuning their performance as well as keeping up with any changes in customer behaviour and preference, always delivering the most relevant recommendations based on their up-to-date knowledge.

## The Agillic approach

Agillic's AI-powered Customer Marketing Platform is modular, and different combinations of modules provide multiple entry points. Where you start depends on your business, your existing capabilities, and your aspirations for how you want to develop in marketing. Regardless of the starting point, the platform will grow with your needs, supporting you as you move towards leveraging the full combined capabilities of AI and automated and personalised communication at scale.



# Supercharging Omnichannel Marketing

AI enhances Agillic's Customer Marketing Platform, exploiting the synergy between the two technologies. Our platform can execute on the basis of the insights regarding customer preferences and the statistical probability of purchases provided by our AI models. This provides a high level of personalisation at scale and helps companies to execute the right communication at the right time, in the right channel. For us, there is no doubt that the synergy between predictive AI models and automated omnichannel marketing is crucial for companies to capitalise on data and to win and maintain the critical consumer's loyalty.

## How to Start Working with AI in Your Marketing Organisation

**1. Define your business objectives**
AI is a powerful tool for marketers to generate business value if they understand how to leverage its full potential, but it is not a miracle cure for marketing's current challenges. It is crucial that you define your desired outcome from using AI and work back from there. The truth is that of the vast numbers
of statistically significant patterns in the data, very few have any business relevance. Therefore, projects need to start with a clear business objective, and you should focus AI analyses on data that can help support that.

**2. Apply an incremental approach**
Agillic recommends adopting AI in an incremental approach, treating its rollout as a journey and starting with the "low hanging fruit", relatively easy projects that quickly deliver ROI that both proves the value of the AI technology and funds further steps towards the overall goal of the ubiquitous use of AI.

**3. Measure the effect**
The only reason to apply AI is to produce previously unobtainable value. For each project you must establish a baseline measure of performance - be it response rates, conversion, customer spend, or whatever - before applying AI, and measure the incremental gain once it has been introduced.

# Prospects for the Future

With AI there is no doubt that if you have not begun, you are already behind. Though brands may not yet be hitting the panic button, there is an increasing awareness that the opportunity to take a competitive lead will be short-lived. The technology is so powerful and the impact so massive, that organisations and people using AI will supersede those that don't.

Across a wide range of functions, including marketing, AI will enable us to do our day-to-day job better, innovate and implement new ideas faster, and reach levels of productivity and effectiveness well beyond those previously obtainable.

Companies who deploy AI successfully will gain more customers, more data, and greater opportunity to experience AI-driven value. Such self-reinforcing cycles could easily lead to a winner-takes-it-all scenario where companies that prevaricate and delay establishing an AI strategy are not likely to regain momentum in rapidly evolving markets.

## Curious to learn more?

If you would like to know more about how Agillic can help you work with AI-powered omnichannel marketing feel free to contact us:

**Contact us in London**
Alex Olley • alex.olley@agillic.com • +44 20 3958 4130

**Contact us in Copenhagen**
Thomas Gaarde Andersen • tga@agillic.com • + 45 27 25 50 76

**Contact us in Sweden**
Jonas Luthander • jonas.luthander@agillic.com • +46 70 683 83 03

# Glossary

### AI
If a computer carries out some activity that, if done by a human would be said to be intelligent, it is showing artificial intelligence (AI). AI includes many different technologies and disciplines; the most relevant to marketing is machine learning.

### Algorithm
An algorithm is a self-contained sequence of actions to be performed to accomplish a specific task. Machine learning algorithms are the basis of applying AI to marketing.

### Artificial neural network
The concept of an artificial neural network – often referred to as simply a neural network – is inspired by the biological brain. Several families of machine learning algorithms work by creating and training neural networks. Neural networks are particularly effective in application areas which mimic subconscious human decision making such as image processing and pattern recognition. They are useful in marketing, though, because they can output a continuous range of scores allowing very fine granularity for differentiating between individuals. Their opacity is sometimes seen as a shortcoming; as with the human brain, it is hard to understand precisely how a neural network arrives at its decisions.

### Association analysis
Association analysis identifies sets of items which tend to occur together. As it is frequently applied to items purchased together, it is often referred to as "basket analysis" and produces rules like, "When A and B are purchased together, there is a 72% chance that C will also be purchased". The technique is often used for cross-selling recommendations.

### Bias
Human decision making is often skewed towards particular outcomes in certain cases, in which case they are said to show bias. Machine learning algorithms learn from data, and while that data may be expected to be factual and objective, the way in which it is selected and represented may implicitly embody aspects of human bias; this results in the biased opinions of humans being embedded in the models they produce. In areas such as law and employment, poorly designed models may perpetuate race or gender discrimination. In marketing applications, models may perpetuate and amplify the flaws in current marketing strategy because the training data is based on what was done rather than the range of tactics that could potentially work.

### Big data
Big data is a term for data sets that are so large or complex that traditional data processing applications and basic analytical approaches are inadequate to deal with them. Rather, they are addressed with a mix of algorithmic approaches including machine learning and advanced exploration tools including sophisticated visualisation.

### Decision trees
These are models where decisions are arrived at by traversing a tree structure. At each branching point, an attribute is tested to determine which branch to follow. Decisions result from arriving at a leaf, which will specify an outcome and/or propensity to return. Decision trees have the advantage of being relatively easy to read and understand.

### Deep learning
Deep learning is the name for a family of machine learning techniques, based on variants of automated neural networks, that have attracted a lot of interest and publicity in recent years. They are particularly powerful in "sub-symbolic" applications such as recognising content in unstructured data including images and videos. While some organisations have begun to apply them in marketing, the application areas described in this paper are usually tackled very effectively by using more traditional machine learning techniques. This includes social media analysis, where the unstructured data - text in this case - is handled by combining natural language processing and machine learning.

### Machine learning
Machine learning is one of the most fundamental concepts of AI. Machine learning algorithms are applied to historical data and create models which can be used to make judgements about current or future cases. In marketing, a common application is to learn from historical purchase or response data to predict customers' future propensity to purchase or respond. There are many types of machine learning algorithms producing a wide range of model types, including artifi-

cial neural networks, decision trees, segmentation models, association analysis models and sequence detection models. By updating or refreshing models from new data, the algorithms can incrementally improve efficacy and also adapt to new and emergent patterns such as changes in customer behaviour and preference.

## Model

A model is an entity constructed by a machine learning algorithm. A model can be thought of as a processing unit. It receives input data – such as a customer's attributes – and produces one or more outputs such as the product most likely to appeal to them, their propensity to respond to a particular offer, or the cluster to which they belong.

## NLP

Natural Language Processing (NLP) analyses text with regard to language structure and meaning. By analysing text such as customer emails, open-ended survey responses, or transcripts of call centre conversations, NLP can give marketers new and valuable insights into customers' preferences and attitudes. In addition, "concepts" extracted from such text, and even emotional states inferred by sentiment analysis, can become additional inputs to models to increase predictive performance.

## Predictive analytics

Predictive Analytics is the analysis of historical data in such a way that the findings can be used to make robust and accurate assessments of new or future cases. Machine learning, and the predictive models such algorithms produce, are central to this.

## Propensity

A propensity is a measure of the likelihood of a particular outcome, for example, that a customer will terminate their service subscription at the next renewal event. Propensities are usually produced by models and are sometimes confused with probabilities, but these have a precise and formal statistical definition while the exact meaning of propensity will vary from application to application. They are a figure in a numeric range – often 0.0 to 1.0 – where the higher the propensity, the more likely something is. Calculating propensities across large sets of customers – often referred to as "scoring" – allows them to be ranked and the best prospects selected for, say, a forthcoming campaign.

## Segmentation

In the marketing context, segmentation by machine learning algorithms is sometimes referred to as "auto-segmentation" to differentiate it from the traditional "segmentation" done by marketers. Marketing segmentation is based on assumptions or high-level market research; "Segments" are groups of consumers who are expected to have a certain set of preferences and are therefore likely or unlikely to respond to particular messaging or offers. In the machine learning approach, clustering algorithms consider a wide range of consumer data and automatically group consumers according to similarity. Each cluster is effectively a segment; algorithms can return the characteristics that best differentiate each segment and overlay key measures (e.g. propensity to purchase) across segments. The algorithms can recognise when individuals move between segments, and automatically update their analyses to refresh the entire segmentation model when the underlying data shows clusters have changed.

## Sentiment analysis

Analytical techniques which identify the emotional connotations behind text or speech.

## Sequence detection

This is similar to association analysis but finds sets of items or events which happen in a particular sequence over time. It can be used in areas such as identifying website visit paths which lead to a purchase, or sequences of events which give early warning of, say, termination of a service.

## Structured data

Structured data is the well-organised, well-behaved data typically stored in databases and spreadsheets. Records of, for example, purchase transactions contain a fixed and known number of fields, and the content of each field will usually be of the same type (e.g. a payment amount or a date).

## Unstructured data

Unstructured data is everything that doesn't fit this simple repeated structure: for example, free text, recordings of speech or other sounds, images, and video clips. Some estimates put the proportion of data that is unstructured at 80% or higher, and by its nature, it is harder to analyse than structured data. The most common unstructured data used in marketing is text which can be analysed using NLP techniques, and video analysis has been used to analyse consumers' emotional response to advertising content.

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Agillic is a Danish software company enabling marketers to maximise the use of data and translate it into relevant and personalised communication establishing strong relations between people and brands. Our customer marketing platform uses AI to enhance the business value of customer communication. By combining data-driven customer insights with the ability to execute personalised communication, we provide our clients a head start in the battle of winning markets and customers. We do that for clients such as Banco Santander, Egmont Publishing, Matas, Vita, and Storytel.

**contact@agillic.com**
**www.agillic.com**

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