

Digital Glossary ^{A | Z}



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About this Glossary

In today's world, the digital transformation is accelerating and with it, new methods and tools emerge, but also a new language that sets certain boundaries and barriers for collaboration. Hence, the intention of this Glossary is to set a common understanding of certain terms without the claim, that the proposed definitions are universally applicable.

WHY?

In order to collaborate in a digital world, we need a common understanding and shared terminology to avoid misunderstandings, that potentially undermine the success of any collaborative effort.

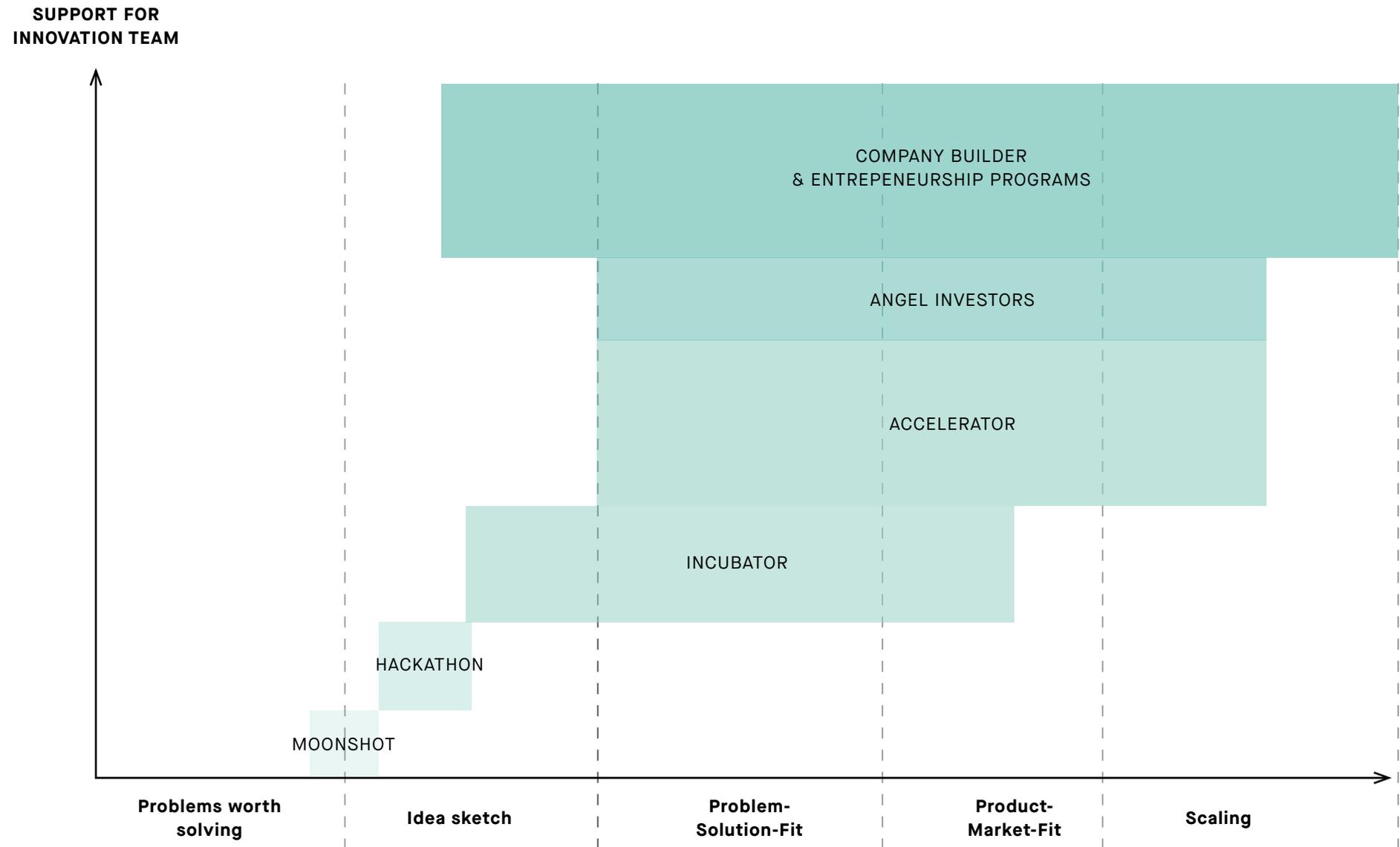
HOW?

The definitions are mostly building on popular websites in the respective field, however, are refined by the publishers for a corporate setting.

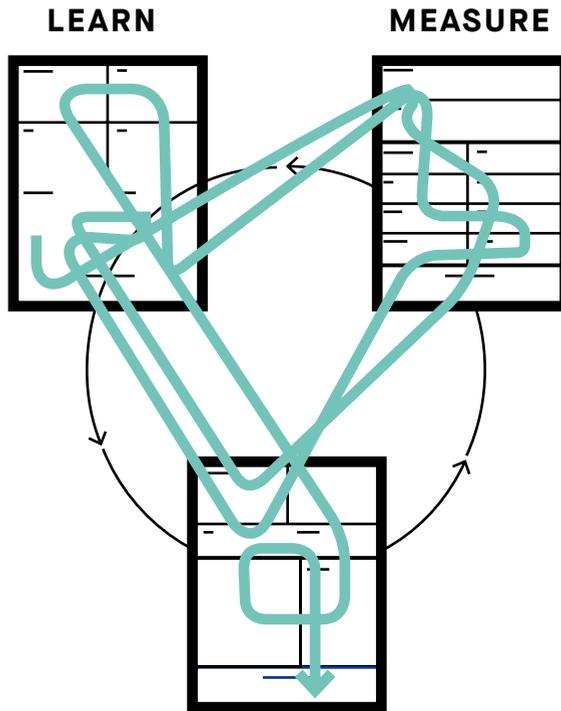


Innovation

Support Programs



Innovation process



BUILD → Learning through tangible „pre-products“:

#1 PRETOTYPE EXAMPLES: Paper prototypes, role-plays, Card sortings, etc.

#2 PROTOTYPE EXAMPLES: Click dummies, 3D-printed objects, landing pages, email campaigns etc.

#3 MVP EXAMPLES: Functional websites, animated click streams, Wizard of Oz products, etc.

1 INNOVATION GENERAL TERMS

A/B TESTING: This test compares one version of a web page or product with another and measures which produces best results (e.g. conversion)

ACCELERATOR: Facility established to nurture young (startup) firms during their go- to-market phase to achieve „Proof of market“. Accelerator usually support startups through networks to partners, investors, etc.

→ Support Program p. 6

AGILE DEVELOPMENT: Agile software development describes a set of values and principles for software development under which requirements and solutions evolve through the collaborative effort of self-organizing cross- functional teams.

ANGEL INVESTOR: An investor who provides small financial backing for startups or entrepreneurs and (ideally) entrepreneurial advice to the founders.

→ Support Program p. 6

BOOTSTRAPPING: Funding and running a business without any outside capital.

BUILD-MEASURE-LEARN: The fundamental activity of any start up to gain new user knowledge and apply it to new product offerings with the goal to find a viable business model

BUSINESS MODEL INNOVATION is about fundamentally rethinking your business around a clear—though not always obvious—customer need, then realigning your resources, processes and profit formula with this new value proposition

COMPANY BUILDER is an organizational structure (aka startup factory, startup foundry, venture builder) that aims at building several companies in succession. In comparison to incubators, company builder are playing an active (not a supportive role) in scaling startups (e.g. team building, funding, asset sharing, etc.). → Support Program p. 6

CROWDSOURCING is a specific sourcing model in which individuals or organizations use contributions from Internet users to obtain needed services or ideas.

CUSTOMER LIFE TIME (CLV): All revenues associated to one user during the product life cycle. The CLV differs depending on customer group segmentation.

CUSTOMER ACQUISITION COSTS (CAC): All costs to acquire one active user of a product. CACs are mainly driven by marketing spendings and differ significantly to marketing channels. Definition varies according to the understanding of „Active“ customers (e.g. registrations vs. paying customers).

1 INNOVATION GENERAL TERMS

DESIGN SPRINT is a five-day process for answering critical business questions through design, rapid prototyping, and testing ideas with customers. This format originated from Google Ventures.

DESIGN THINKING is a methodology (and innovation culture) that puts the user in the center of innovation activities and achieves innovative results through thorough user testing and continuous iteration

DISRUPTIVE TECHNOLOGIES introduces to the market a very different value proposition than what is currently being offered. It is a new source of growth for a company

EXCREMENTAL INNOVATION: An excremental innovation is that kind of innovation that does not meet any of the customer's needs. A perfect excremental Innovation makes customer's lives even worse. Excremental innovations can also be used strategically. Excremental Innovations can create poor products or services in order to make other options look better or in order to be completed by other more expensive options.

HACKATHON is a design sprint-like event in which attendees collaborate intensively on software projects, typically to solve a pre-defined problem. → [Support Program p. 6](#)

INCUBATOR is a facility established to nurture young (startup) firms during their concept phase to achieve „Proof of concept“. Incubator support startups through (mostly) non-monetary services (office space, skill training, marketing support, investor relations, etc.) → [Support Program p. 6](#)

INNOVATION ACCOUNTING is a measurement / accounting system that uses actionable metrics to evaluate how fast startups are learning as a critical measure of progress toward converging on a business-valuable result

INTRAPENEUR: An employee within a company who promotes innovative product development and marketing and builds new business models inside a corporate structure.

LEAN STARTUP: Similar to Design Thinking, Lean StartUp is a set of tools that support the development of successful business bodes through inexpensive and continuous user testing.

LEAN CANVAS: A 1-page visual business plan used by start ups to visualize key elements in one view.

MINIMAL VIABLE PRODUCT (MVP): An early version of a product with the smallest group of features that customers are willing to pay for (e.g. revenue, customer data, social reach, etc.)

1 INNOVATION GENERAL TERMS

MOONSHOT is, in a technology context, an ambitious, exploratory and ground-breaking project undertaken without any expectation of near-term profitability but the promise of exponential growth opportunities.

→ [Support Program p. 6](#)

OMGY (short for: oh my gosh, yes) exclamation of joy when an innovation has been established.

OPEN INNOVATION was defined as the use of purposive inflows of external knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.

PIVOT describes the process of iterating the value proposition of your start up (e.g. product offering or business model as such). A pivot is the activity to search for other business opportunities as the current one does not prove to be sustaining.

PRODUCT-MARKET FIT is a business development milestone of startups. The fit describes the status, where the startup solution is able to solve a viable customer problem and the product provides sufficient return (Customer Life Time (CLV) > customer acquisition costs (CAC)). → [CLV, CAC p.9](#)

PRETOTYPE is a pre-version of a prototype, often only testing very limited elements of a product offering or business model with minimal expenses.

PROTOTYPE is an early model or experiment to rapidly create solutions to challenges and problems already defined and discussed by innovators.

STARTUP: A company that attempts to create a new product or service under conditions of extreme uncertainty.

SUSTAINING TECHNOLOGIES are technologies that improve product performance

UNFAIR ADVANTAGE describes the tangible or intangible assets, that only your start up has access to and that provide competitive advantages

VIRAL LOOPS are a type of marketing campaign used to promote a company or product. Named after viruses, a viral loop is meant to infect a person and cause them to share it with other people.

BUSINESS MODEL TYPES

AFFILIATE MODEL: An affiliate is simply someone who helps sell a product in return for commission. However they may never actually take ownership of the product (i.e. Gawker Media)

AGGREGATOR: E-commerce business model (or On Demand Delivery model or Uber for X model) usually involve organizing an unorganized and populated sector like hotels, taxis, etc. and provide the service under one brand.

BAIT AND HOOK MODEL: A company sells an initial product at a very low price to „hook“ customers, in order to sell expendable material at a premium price (i.e. Gillette, printers, etc.)

DISTRIBUTOR is any business that purchases products directly from a manufacturer for resale either to retail outlets, or directly to the public.

FREEMIUM: Offering an entry level product for free and additional features are sold with high margins (i.e. Skype)

LONG TAIL: Focusing on a large number of products each with low sales volumes but with the most profitable clients (i.e. Lego, Amazon Self Publishing)

MULTI-SIDED PLATFORMS: Brings together two or more distinct but interdependent groups of customers (i.e. Google)

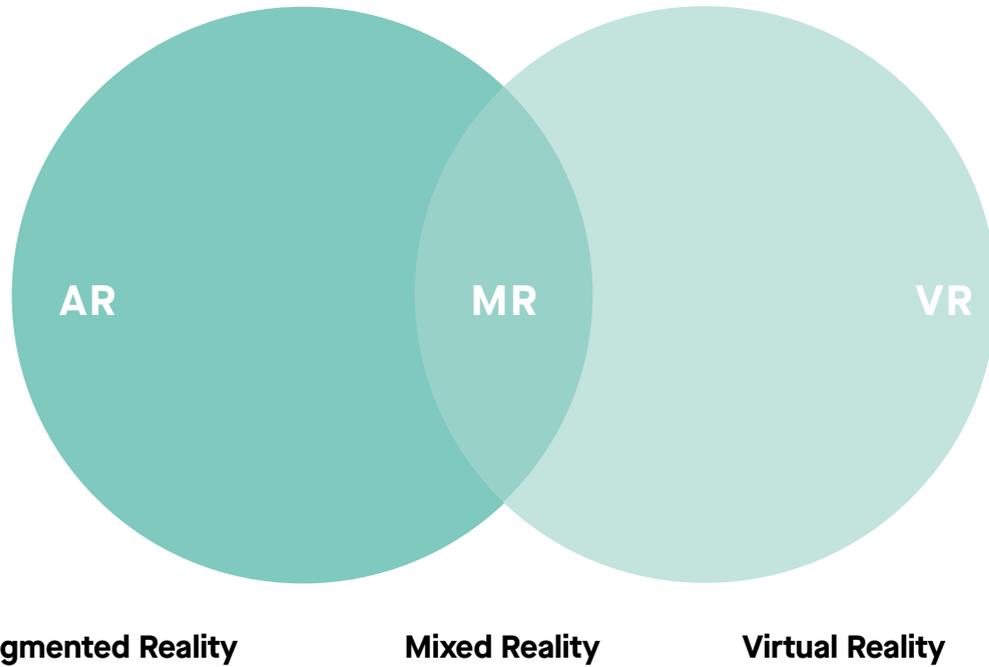
OPEN SOURCE: Software developed voluntarily by thousands of engineers around the world (i.e. Redhat)

2



Emerging
Technologies

AR/MR/VR



AR: Digital content on top of reality



MR: Digital content interacts with reality



VR: Shout out reality

Cloud Computing



SaaS Examples:

SalesForce, GSuite, Xero, etc.

PaaS Examples:

Pivotal, Amazon Web Services, IBM BlueMix

IaaS Examples:

Amazon EC2, RackSpace, IBM Softlayer

AUGMENTED REALITY (AR) adds to our perception of the world by overlapping computer generated graphics, images, or a set of interactive data (e.g. on a smartphone)

→ [AR/MR/VR pp.14-15](#)

ARTIFICIAL INTELLIGENCE: The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings, such as visual perception, speed recognition, language translation, decision making, etc.

API (application program interface) is code that allows two software programs to communicate with each other. The API defines the correct way for a developer to write a program that requests services from an operating system (OS) or other application.

BIOMETRICS: the measurement and analysis of unique physical or behavioral characteristics (such as fingerprint or voice patterns) especially as a means of verifying personal identity.

BITCOIN is the first cryptocurrency building on blockchain technology and a worldwide payment system. It is a decentralized peer-to-peer network that works without a central bank.

BLOCKCHAIN: A blockchain is a decentralized and distributed digital ledger that is used to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the collusion of the network.

CHATBOT (also known as a talkbot, chatterbot, Bot, IM bot, interactive agent, or Artificial Conversational Entity) is a computer program which conducts a conversation via auditory or textual methods.

CLOUD COMPUTING is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer. → [Cloud Computing p.11](#)

DEVOPS (development and operations) is an enterprise software development phrase used to mean a type of agile relationship between development and IT operations. The goal of DevOps is to change and improve the relationship between these two business units.

DYNAMIC CREATIVE OPTIMIZATION (DCO) is a display ad technology that creates personalized ads based on data about the viewer at the moment of ad serving. Because the creative is both more relevant and also tested and optimized, dynamic ads typically outperform their static counterparts

ETHEREUM is a decentralized software platform that enables SmartContracts and Distributed Applications (DApps) to be built and run without any downtime, fraud, control or interference from a third party.

GAMIFICATION is the application of game-design elements and game principles in non-game contexts (e.g. badges, levels, rewards, status, etc.).

IAAS (Infrastructure as a Service) is the foundation of cloud computing and allows users to “rent” virtual servers and storage with the software that automates it while creating networks to tie them all together.

→ [Cloud Computing p.16](#)

INDUSTRY 4.0 is a name for the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Industry 4.0 creates what has been called a „smart factory“

INTERNET OF THINGS (IOT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people, that have the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

M2M (Machine to Machine) refers to a wireless or wired network setup that allows devices of the same type and ability to communicate freely with each other.

MACHINE LEARNING is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.

MARKETING CLOUD is a cloud-based system that provides access to audience profile data, content, workflow elements, messaging and common analytic functions for orchestrating and optimizing multichannel campaigns, conversations, experiences, and data collection across online and offline channels, both manually and programmatically.

MESH NETWORK is a local network topology in which the infrastructure nodes (i.e. routers) connect directly, dynamically and non-hierarchically to as many other nodes as possible and cooperate with one another.

MIXED REALITY (MR) is a hybrid of VR and AR and aims to offer the best of both worlds. For instance, while it uses a headset just like VR, seeing through a translucent viewport or glass, it also projects visuals on top of our environment. → [AR/MR/VR p.14–15](#)

NFC (Near-field communication) is a set of communication protocols that enable two electronic devices, one of which is usually a portable device such as a smartphone, to establish communication by bringing them within 4 cm (1.6 in) of each other. It's often used for identification or payment processes.

PAAS (Platform as a service) is a category of cloud computing services that provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining the infrastructure (e.g. for launching an app).

→ [Cloud Computing p.16](#)

PERSONALIZATION: (also known as customization) consists of tailoring a service or a product to accommodate specific individuals, sometimes tied to groups or segments of individuals.

RFID (Radio-frequency identification) uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information.

SAAS (Software as a service) is a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted. SaaS is typically accessed by users using a web browser.

→ [Cloud Computing p.16](#)

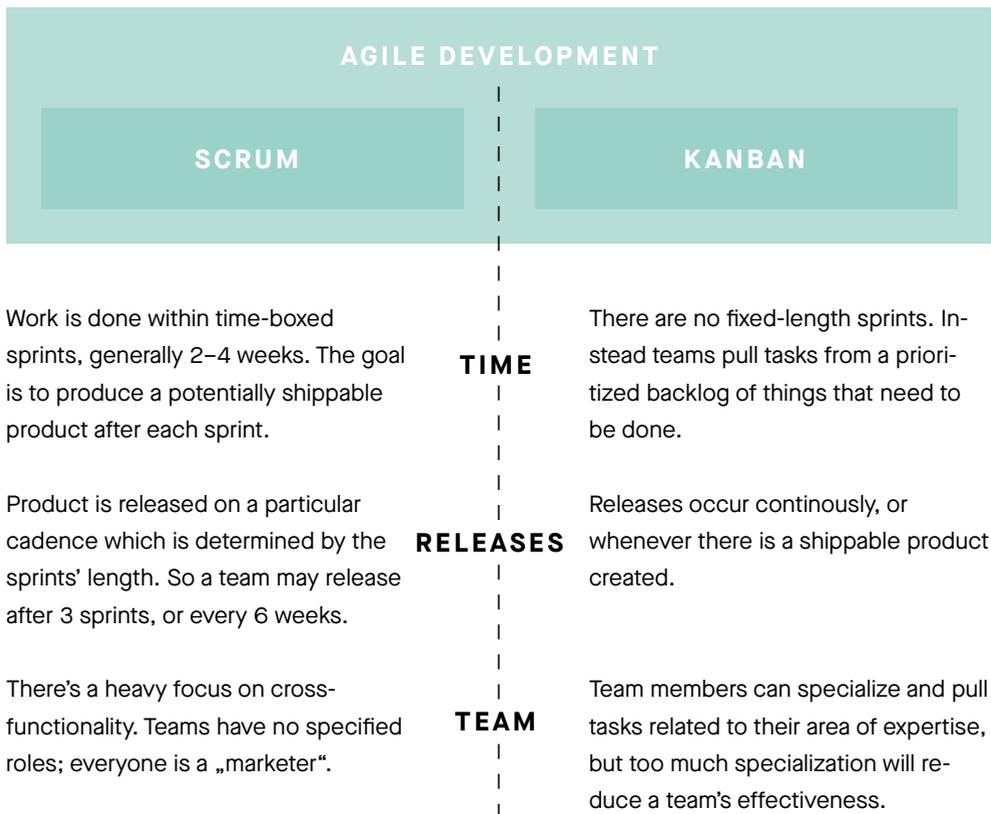
VIRTUAL REALITY (VR) is a simulated and immersive experience projected by a device into the user's sight. → [AR/MR/VR pp.14–15](#)

3



coding

Coding Overview & Comparison



AGILE DEVELOPMENT Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

CONTAINERS define a specific space for digital content. The container is an interface to other system elements, thereby decreasing interdependencies and complexities. Containers are popular with both developers and operators because they offer a simpler way to achieve deployment and execution consistency.

(HYBRID APPS) try to separate the content and the platform, so that the same content can be used in various platforms. This is done basically by creating a container for each platform with the same content. Analogy: Prefabricate houses, They can be build anywhere but have the same content aka room layout).

KANBAN is another agile method to manage and improve work for software development teams. This approach aims to manage work by balancing the demands with available capacity, and improving the handling of system level bottlenecks: Work items are visualized from start to finish usually via a Kanban board. Work is pulled as capacity permits, rather than work being pushed into the process when requested.

NATIVE (APPS) are specifically developed for one particular platform (Apple AppStore, Google Playstore, Windows, etc.). They use the pre-defined elements of each platform (e.g. map integration, camera, keyboard, etc.)

SCRUM is a framework for managing work with an emphasis on software development. It is designed for teams of three to nine developers who break their work into actions that can be completed within timeboxed iterations, called sprints (typically two-weeks).

STAND-UP MEETING is a meeting in which attendees typically participate while standing. The discomfort of standing for long periods is intended to keep the meetings short (15min. max).

4

Digital
Marketing



Consumer Journey

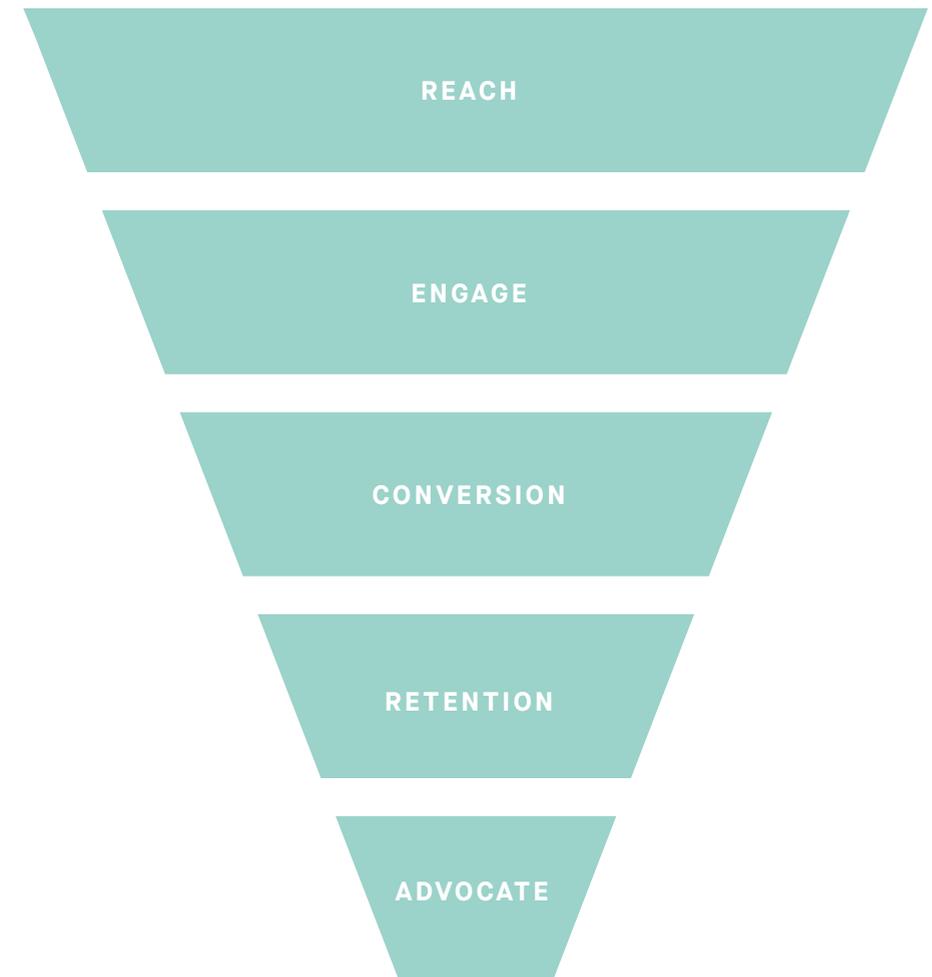
REACH refers to the total number of different people or households exposed, at least once, to a medium during a given period.

ENGAGE measures the extent to which a consumer has a meaningful brand interaction when exposed to commercial advertising or other other experiences (e.g. shares, likes and comments for social media engagement)

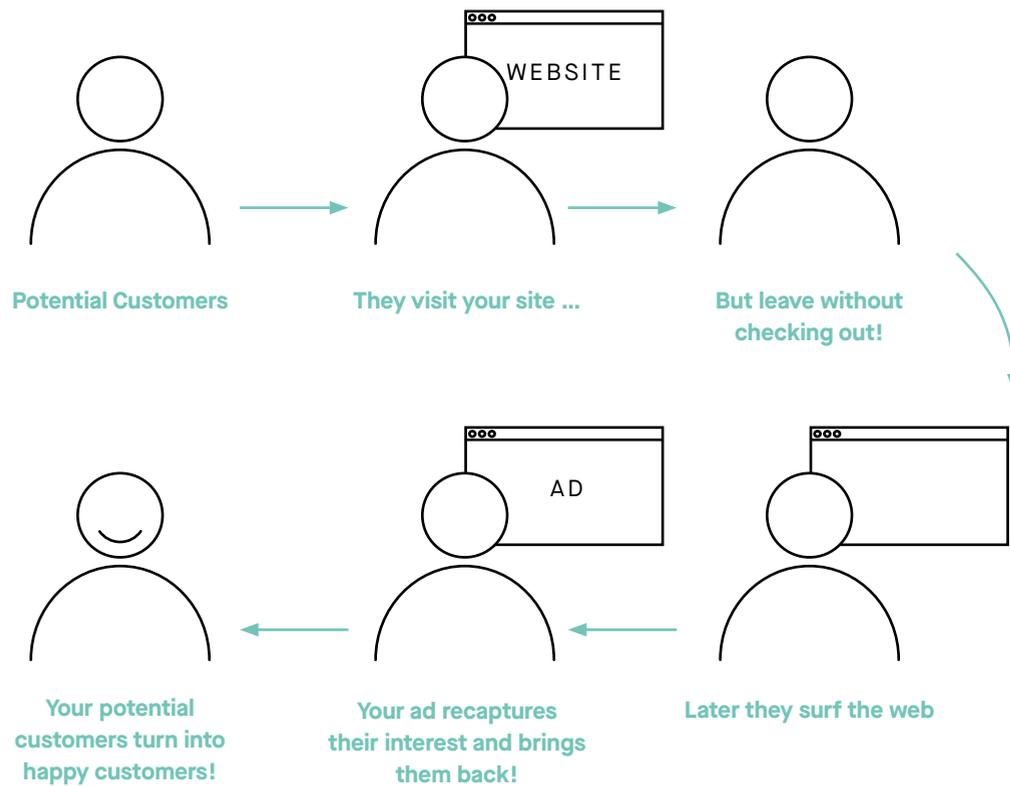
CONVERSION: An action that's counted when someone interacts with your ad (for example, clicks a text ad or views a video ad) and then takes an action that you've defined as valuable to your business (e.g. purchase, registration, etc.)

RETENTION: Customer retention refers to the ability of a company or product to retain its customers over some specified period.

ADVOCATE refers to the state of a satisfied customer that recommends (Oral or written) the product or service to a prospective customer.



Retargeting



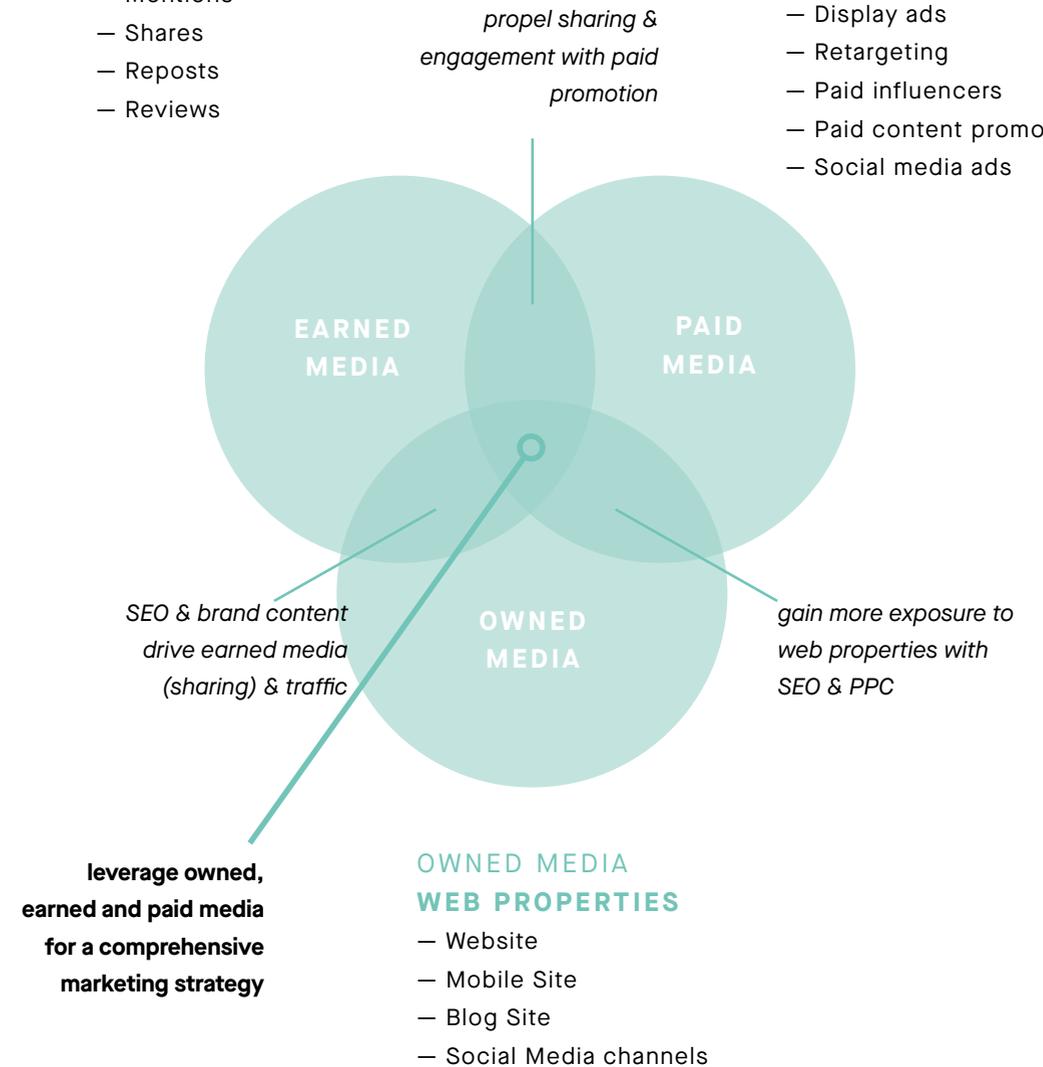
DIGITAL MARKETING TRIFECTA

EARNED MEDIA SHARING

- Mentions
- Shares
- Reposts
- Reviews

PAID MEDIA ADVERTISING

- Pay per click
- Display ads
- Retargeting
- Paid influencers
- Paid content promotion
- Social media ads



1ST PARTY DATA is defined as information you yourself have collected about your audience. Examples: cookie-based data, CRM information, website analytics, etc.

2ND PARTY DATA is such data, when a retailer, brand, publisher, or marketer gains transparent access to the 1st party data of another retailer, brand, publisher, or marketer for marketing purposes.

3RD PARTY DATA is generated on other platforms and often aggregated from other websites and being sold in aggregated forms.

ACTIVE CRM is an approach to CRM to pro-actively analyze data and suggest automated actions to increase sales and/or customer satisfaction based on certain (behavioral) triggers.

ADBLOCKING is the action or practice of using a special piece of software to prevent advertisements from appearing on a web page.

BLOG (a truncation of the expression „weblog“): a discussion or informational website published on the internet consisting of discrete, often informal diary-style text entries („posts“).

CLICK THROUGH RATE (CTR): The number of people who click on a link expressed as of total impressions, emails etc delivered

COMMUNITY MANAGER is responsible for advocating a brand on social networks. They create their own social persona and actively go out within the online community to connect with potential customers and advocate accordingly.

CONTENT MARKETING is a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience — and, ultimately, to drive profitable customer action

CUSTOMER EXPERIENCE (CX) is the product of an interaction between an organization and a customer over the duration of their relationship. A good customer experience means that the individual's experience during all points of contact matches the individual's expectations.

CUSTOMER RELATIONSHIP MANAGEMENT is an approach to manage a company's interaction with current and potential customers. It uses data analysis about customers' history with a company to improve business relationships with customers, specifically focusing on customer retention.

DARK SOCIAL is a term to refer to the social sharing of content that occurs outside of what can be measured by Web analytics programs (e.g. private tabs, ad blocker, etc.)

EMOJI a small digital image or icon used to express an idea or emotion in electronic communication (e.g. smileys, etc.).

FOLLOWER: In social media, a follower represents a user who chooses to see all of another user's posts in their content feed. Getting users to follow their accounts is a primary objective for online businesses with a social media presence.

GENERAL DATA PROTECTION

REGULATION (GDPR) is a regulation by which the European Parliament, the Council of the European Union and the European Commission intend to strengthen and unify data protection for all individuals within the European Union.

GROWTH HACKING is a process of rapid experimentation across marketing channels and product development to identify the most efficient ways to grow a business. Growth hacking is particularly prevalent with startups, when the goal is rapid growth at an early-stage launch phase.

INFLUENCER is a user on social media who has established credibility in a specific industry. A social media influencer has access to a large audience and can persuade others by virtue of their authenticity and reach.

LOCATION BASED MARKETING is defined as the use of mobile marketing to target mobile users within a certain geographic area

MARKETING AUTOMATION refers to the software that exists with the goal of automating marketing actions. Many marketing departments have to automate repetitive tasks such as emails, social media, and other website actions.

MICROBLOG differs from a traditional blog in that its content is typically smaller in both actual and aggregated file size (e.g. short sentences, individual images, or video links).

MICRO INFLUENCERS are influencers with a smaller number of followers (1,000 - 100,000) who typically build followings around niches (e.g. travel, fashion, beauty, photography, etc.)

MOBILE WEBSITE is designed specifically for the smaller screens and touch-screen capabilities of smartphones and tablets. It can be accessed using any mobile device's Web browser, like Safari on iOS and Chrome on Android

OPT-IN is a method of advertising by electronic mail wherein the recipient of the advertisement has consented to receive it. Examples: Newsletter registration.

SOCIAL MEDIA MONITORING is a way of computing popularity of a brand or company by extracting information from social media channels (e.g. blogs, wikis, news sites, micro-blogs, social media networks etc.)

MEDIA GENERATION

EARNED MEDIA refers to publicity gained through promotional efforts other than paid media Examples: Shares, Likes, Comments, Reposts, Warf of Mouth etc.

→ Retargeting p.27

OWNED MEDIA is defined as communication channels that are within one's control. Examples: Web / Mobile Sites, Blogs, Social Networks, Email Newsletter, etc.

→ Retargeting p.27

PAID MEDIA refers to external marketing efforts that involve a paid placement. Examples: Display/Video Ads, Paid Search / social , Paid Influencers, etc.

→ Retargeting p.27

USER GENERATED CONTENT (UGC) is any form of content created by users of a system or service and made available publicly on that system.

STORIES: (e.g. Instagram Story) are a way of sharing photos and videos with followers that disappear after a certain amount of time. A story can contain photos, videos and / or text annotations.

TYPES OF MEDIA

DISPLAY advertising is a form of advertising that conveys a commercial message visually through banners using text, logos, animations, videos, photographs, or other graphics.

ORGANIC SEARCH: Interaction made by people with your brand without having to have pay for it (e.g. search queries through Google, etc.).

PAID SEARCH: Purchase of keywords to get sponsored links returned in search engine results (e.g. Google Adwords, Facebook Ads)

RETARGETING is a form of online targeted advertising by which online advertising is targeted to consumers based on their previous Internet actions → Retargeting p.26

SOCIAL: Advertising on social networks

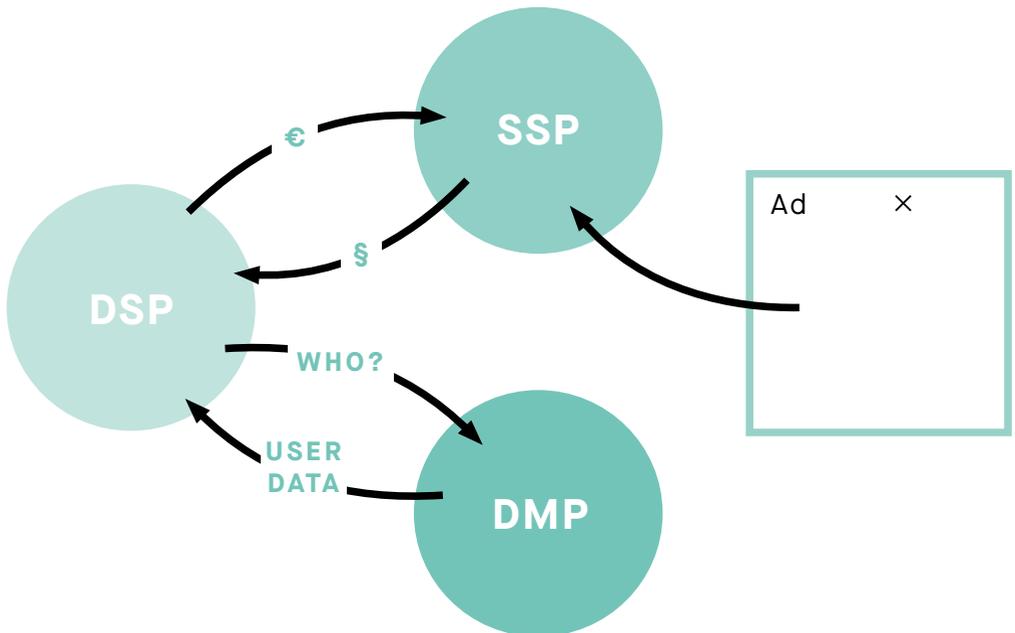
VIDEO refers to advertisements that is integrated into videos and generally occurs before, during and after a video stream.

5



Tech Stack
(for online advertising)

CRM Evolution



AD SERVING technology companies provide software to Web sites and advertisers to serve ads, count them, choose the ads that will make the Web site or advertiser the most money, and monitor progress of different advertising campaigns.

ADTECH: The term (short for advertising technology) broadly refers to different types of analytics and digital tools used in the context of advertising. Discussions about ad tech often revolve around the extensive and complex systems used to direct advertising to individuals and specific target audiences.

ANALYTICAL CRM denotes the systematic electronic analysis of collated customer data and focuses on the exact analysis and enrichment of all data. It provides support for various business processes, which can include sales, marketing and service.

→ CRM Evolution p.32

APACHE SPARK is an open-source engine developed specifically for handling large-scale data processing and analytics. Spark offers the ability to access data in a variety of sources, including Hadoop Distributed File System (HDFS).

APP: A computer program with an interface, enabling people to use the computer as a tool to accomplish a specific task.

BUSINESS INTELLIGENCE (BI) refers to technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to support better business decision making.

CLOUD COMPUTING is an information technology paradigm that enables ubiquitous access to shared pools of configurable system resources over the Internet.

CONTENT MANAGEMENT SYSTEM (CMS) is a computer application that supports the creation and modification of digital content.

DATA LAKE is a method of storing data within a system or repository, in its natural format that facilitates the collocation of data in various schemata and structural forms, usually object blobs or files.

DATA MANAGEMENT PLATFORM (DMP)

is used by digital advertising buyers and publishers to store and manage audience data, often from multiple sources, and make it available to other platforms to be used for targeted advertising, content customization and beyond. → CRM Evolution p.32

DEMAND-SIDE PLATFORM (DSP): a

system that allows buyers of digital advertising inventory to manage multiple ad exchange and data exchange accounts through one interface. → CRM Evolution p.32

DIGITAL ASSET MANAGEMENT (DAM)

is a content management system (CMS) that centrally stores and manages all digital files produced by an enterprise.

HADOOP: Apache Hadoop is an open-source software framework used for distributed storage and processing of dataset of big data using the MapReduce programming model. It consists of computer clusters built from commodity hardware.

IDENTITY ACCESS MANAGEMENT

(IAM) is, in computer security, the security and business discipline that „enables the right individuals to access the right resources at the right times and for the right reasons“.

IPAAS (INTEGRATED PLATFORM-AS-A-SERVICE): Integrated Platform as a Service

(iPaaS) is a suite of cloud services enabling development, execution and governance of integration flows connecting any combination of on premises and cloud-based processes, services, applications and data within individual or across multiple organizations.

LEGACY SYSTEM is an old method, technology, computer system, or application program, "of, relating to, or being a previous or outdated computer system.

MAP (MARKETING AUTOMATION PLATFORM): Software platforms and technologies

designed for marketing departments and organizations to more effectively market on multiple channels online (such as email, social media, websites, etc.) and automate repetitive tasks.

MIDDLEWARE is computer software that provides services to software applications beyond those available from the operating system. Middleware makes it easier for software developers to implement communication and input/output, so they can focus on the specific purpose of their application.

ON-PREMISE SOFTWARE is installed and runs on computers on the premises (in the building) of the person or organization using the software, rather than at a remote facility such as a server farm or cloud.

OPERATIONAL CRM generally refers to services that allow an organization to take care of their customers. It provides support for various business processes, which can include sales, marketing and service. Contact and call centers, data aggregation systems and web sites are a few examples of operational CRM. → [CRM Evolution p.32](#)

PLATFORM is a group of technologies that are used as a base upon which other applications, processes or technologies are developed. In personal computing, a platform is the basic hardware (computer) and software (operating system) on which software applications can be run.

PRODUCT INFORMATION

MANAGEMENT (PIM) means managing the information required to market and sell products through distribution channels. A central set of product data can be used to feed information to media such as web sites, print catalogs, ERP systems, and electronic data feeds to trading partners.

PROGRAMMATIC BUYING describes online display advertising that is aggregated, booked, flighted, analyzed and optimized via demand side software interfaces and algorithms. While it includes RTB it also includes non RTB methods and buy types such as Facebook Ads API and the Google Display Network

REAL-TIME BIDDING (RTB) is a means by which online ads are bought and sold on a per-impression basis, via programmatic instantaneous auction, similar to financial markets.

SOCIAL CRM (customer relationship management) is use of social media services, techniques and technology to enable organizations to engage with their customers.

→ [CRM Evolution p.32](#)

SUPPLY-SIDE PLATFORM (SSP) or sell-side platform is a technology platform to enable web publishers to manage their advertising space inventory, fill it with ads, and receive revenue. → [CRM Evolution p.32](#)

WEB HOSTING is in the business of providing server space, Web services and file maintenance for Web sites controlled by individuals or companies that do not have their own Web servers.

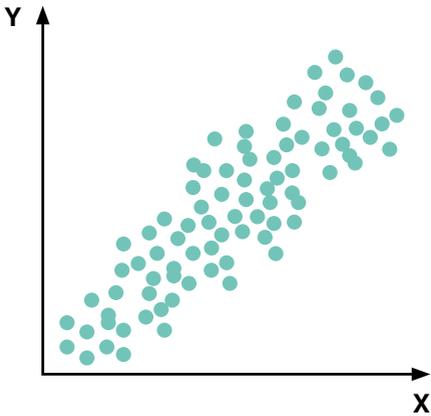
WEB SERVICE is an application or data source that is accessible via a standard web protocol (HTTP or HTTPS), thereby enabling machine-to-machine communication.

6

Analytics

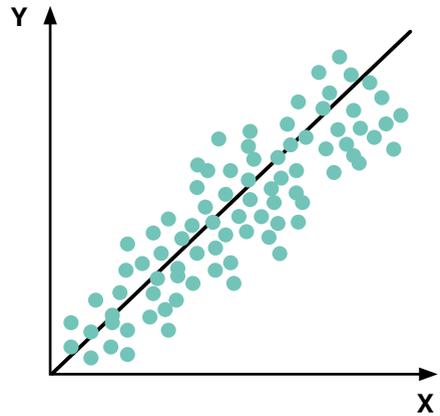


Analytics examples



CORRELATION

vs.



REGRESSION

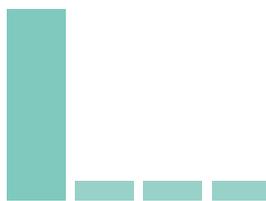
Attribution model examples



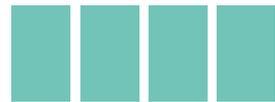
CUSTOMER JOURNEY



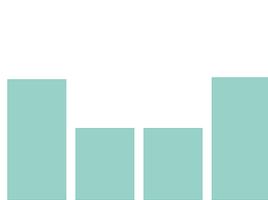
LAST CLICK



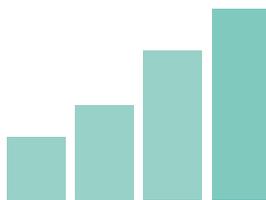
FIRST CLICK



LINEAR



**POSITIONED
BASED**



TIME DECAY



DATA DRIVEN

ADVANCED ANALYTICS is the autonomous or semi-autonomous examination of data or content using sophisticated techniques and tools, typically beyond those of traditional business intelligence (BI), to discover deeper insights, make predictions, or generate recommendations.

ALGORITHM is an unambiguous specification of how to solve a class of problems. Algorithms can perform calculation, data processing and automated reasoning tasks.

ATTRIBUTION MODEL is the rule, or set of rules, that determines how credit for sales and conversions is assigned to touchpoints in conversion paths.

BIAS: A statistic is biased if it is calculated in such a way that it is systematically different from the population parameter being estimated.

BUSINESS INTELLIGENCE (BI) refers to technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to support better business decision making.

CLUSTERING or cluster analysis is the task of grouping a set of objects in such a way that objects in the same group (called a cluster) are more similar (in some sense or another) to each other than to those in other groups (clusters).

CORRELATION is a statistical measure that indicates the extent to which two or more variables fluctuate together (e.g. positive or negative correlation). → [Analytics examples p.38](#)

DATA CLEANSING is the process of detecting and correcting (or removing) corrupt or inaccurate records from a record set, table, or database and refers to identifying incomplete, incorrect or irrelevant parts of the data and then replacing, modifying, or deleting the dirty or coarse data.

DATA MINING is the computing process of discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems.

DATA WAREHOUSE is a large store of data used for reporting and data analysis, and is considered a core component of business intelligence.

DECISION TREE is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences.

MACHINE LEARNING is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves.

NATURAL LANGUAGE PROCESSING (NLP) is concerned with the interactions between computers and human (natural) languages, and, in particular, concerned with programming computers to fruitfully process large natural language data.

NEURAL NETWORK is a system of programs and data patterned on the operation of the human brain that learns from and adapts to initial rules and experience.

OVERFITTING: In statistics and machine learning, overfitting occurs when a model tries to predict a trend in data that is too noisy. Overfitting is the result of an overly complex model with too many parameters.

P-VALUE or calculated probability, is the probability of finding the observed, or more extreme, results when the null hypothesis (H₀) of a study question is true – the definition of 'extreme' depends on how the hypothesis is being tested.

PREDICTIVE MODELING is the process of creating, testing and validating a model to best predict the probability of an outcome (e.g. crime detection, spam protection, etc.).

PYTHON is an interpreted, object-oriented programming language that has gained popularity because of its clear syntax and readability.

R (CORRELATION COEFFICIENT): a number between +1 and -1 calculated so as to represent the linear interdependence of two variables or sets of data.

R² (R-SQUARE) is a statistical measure of how close the data are to the fitted regression line. 0% indicates that the model explains none of the variability of the response data around its mean. 100% indicates that the model explains all the variability of the response data around its mean.

RECORD is a basic data structure. A record is a collection of fields, possibly of different data types, typically in fixed number and sequence (e.g. personal profile, purchase transactions, etc.).

REGRESSION ANALYSIS is a set of statistical processes for estimating the relationships among variables. → [Analytics examples p.38](#)

SIGNIFICANCE LEVEL: the probability of rejecting the null hypothesis in a statistical test when it is true — called also significance level.

STRUCTURED DATA refers to information with a high degree of organization, such that inclusion in a relational database is seamless and readily searchable by simple, straightforward search engine algorithms or other search operations.

SUPERVISED LEARNING is the machine learning task of inferring a function from labeled training data. The training data consist of a set of training examples.

TABLE (like a spreadsheet) is a data processing tool used to query, organize and summarize data.

UNSUPERVISED LEARNING is a type of machine learning algorithm used to draw inferences from datasets consisting of input data without labeled responses. The most common unsupervised learning method is cluster analysis, which is used for exploratory data analysis to find hidden patterns or grouping in data.

VARIABLE associates a name (symbol) with a value or an object. Variables are tightly linked to the programming language and are like placeholders for processing data (e.g. „customeremail“ can be a variable for „individual customer email addresses“).

UNSTRUCTURED DATA is information that either does not have a pre-defined data model or is not organized in a pre-defined manner.

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E-Commerce & Website

Website Heatmaps



Cohort analysis

User signed up		User signed in by Months												
Time	People	1	2	3	4	5	6	7	8	9	10	11	12	> 12
August 2010	1,021	25.6%	6.0%	5.4%	5.8%	3.3%	2.9%	3.8%					1.9%	0.6%
September 2010	1,016	26.1%	6.1%	5.0%	5.7%	4.3%	3.7%						0.8%	-
October 2010	973	26.5%	6.7%	4.5%	5.4%	4.6%	3.3%	3.1%						
November 2010	1,386	28.1%	5.0%	5.3%	4.7%	4.4%	3.0%	3.0%	2.5%	1.7%	0.8%	-	-	-
December 2010	1,652	23.1%	6.6%	3.9%	3.5%	3.0%	2.1%	2.0%	2.0%	0.7%	-	-	-	-
January 2011	1,523	26.5%	6.6%	4.3%	3.9%	3.4%	2.2%	2.4%	0.3%	-	-	-	-	-
February 2011	1,405	26.2%	7.9%	6.5%	5.9%	3.6%	2.9%	0.9%	-	-	-	-	-	-
March 2011				7.2%	5.7%	4.7%	1.5%	-	-	-	-	-	-	-
April 2011				5.3%	5.1%	1.5%	-	-	-	-	-	-	-	-
May 2011				5.6%	2.5%	-	-	-	-	-	-	-	-	-
June 2011	1,155	28.2%	6.8%	2.2%	-	-	-	-	-	-	-	-	-	-
July 2011	1,003	26.5%	2.2%	-	-	-	-	-	-	-	-	-	-	-

Change in retention over product lifetime

Retention over user lifetime

BANK IDENTIFICATION NUMBER (BIN)

works to protect both merchants and consumers in the online marketplace. Every credit or debit card contains a BIN, typically the first four to six numbers on a bank-issued card. These numbers easily identify the type of card being used, the geographic location of the card issuer and which bank or company issued the card.

CLICK AND COLLECT is a hybrid e-commerce system where customers order goods online and pick them up in a store or at some agreed-upon location

CLICK TO BUY also called one-click or one-click buying, is the technique of allowing customers to make online purchases with a single click, with the payment information needed to complete the purchase having been entered by the user previously.

COHORT ANALYSIS is a subset of behavioral analytics that takes the data from a given dataset (e.g. an eCommerce platform, web application, or online game) and rather than looking at all users as one unit, it breaks them into related groups for analysis.

→ [Cohort analysis p.46](#)

COOKIE are small text files stored in a web user's browser directory or data folder. Ecommerce websites place cookies on visitors' browsers to retain login credentials, identify customers, and provide a customized shopping experience.

DIRECT TO CONSUMER marketing is defined as promotion of product directly from manufacturer to consumers without involving the intermediaries in the process.

DYNAMIC PRICING the practice of pricing items at a level determined by a particular customer's perceived ability to pay.

ERETAIL (OR ETAIL) is the selling of retail goods on the Internet.

HEATMAP refer to visualizations of on-page user behavior on website and apps.

→ [Website Heatmaps p.44](#)

LIVE CHAT is an online customer service software with live support, help desk software, and web analytics capabilities.

MOBILE WEBSITE: a website that is designed specifically for the smaller screens and touch-screen capabilities of smartphones and tablets. It can be accessed using any mobile device's Web browser, like Safari on iOS and Chrome on Android

PURE PLAY is a company that invests its resources in only one line of business

PRODUCT LANDING PAGES is a landing page specifically devoted to sell a unique product or service ...

PRODUCT LISTING AD (PLA) includes product image, price, and merchant name and appears when a query with the name product is done (e.g. in a Google search query).

RATINGS AND REVIEWS are used on shopping sites to give customers an opportunity to rate and comment on products they have purchased, right on the product page

SEARCH ENGINE MARKETING (SEM) is a form of Internet marketing that involves the promotion of websites by increasing their visibility in search engine results pages (SERPs) primarily through paid advertising.

SEARCH ENGINE OPTIMIZATION (SEO) is the process of affecting the online visibility of a website or a web page in a web search engine's unpaid results.

SHARE OR SHELF describes the number of inches of store shelf space devoted to the display of a given product.

STORE LOCATOR is a feature found on websites of businesses with multiple locations that allows visitors to the site to find locations of the stores within proximity of an address or postal code or within a selected region.

VOICE COMMERCE is a form of software application that is often utilized within commercial websites. Voice recognition technology replaces the typical point-and-click online decision-making process by prompting the user to speak into a microphone.

8



KPis /
Performance
Measures

E-Commerce

TOTAL REVENUE

* Total income generated from online sales

○○○ WEBSITE		
Product	Quantity	Price
- - - - -
- - -
- - - - -

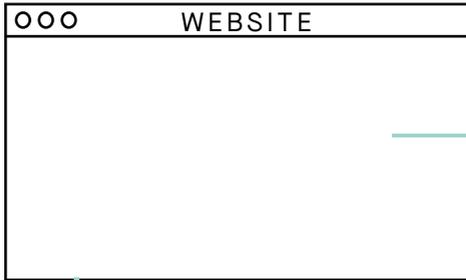
AVERAGE ORDER VOLUME

AVERAGE ORDER VALUE

* average number of products bought by a visitor purchasing

* average amount spent by a visitor purchasing one or more products on the site within the order

Advertising



10,000 IMPRESSIONS
= 180 €

CPM = 18 €

* **Cost per mille:** payment model where advertisers pay for every 1,000 impressions adressed

CTR $\frac{30 \text{ clicks}}{10,000 \text{ impressions}} = 0.3\%$
* **Click through rate**

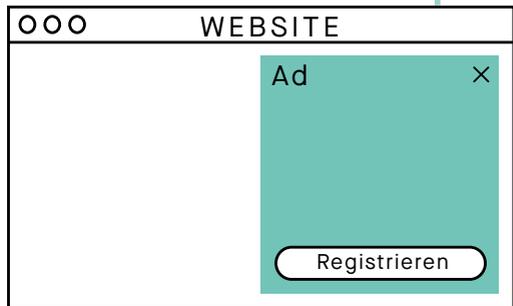
CPC $\frac{180 \text{ €}}{30 \text{ clicks}} = 6 \text{ €}$
* **Cost per click**

CONVERSION RATE (CVR)

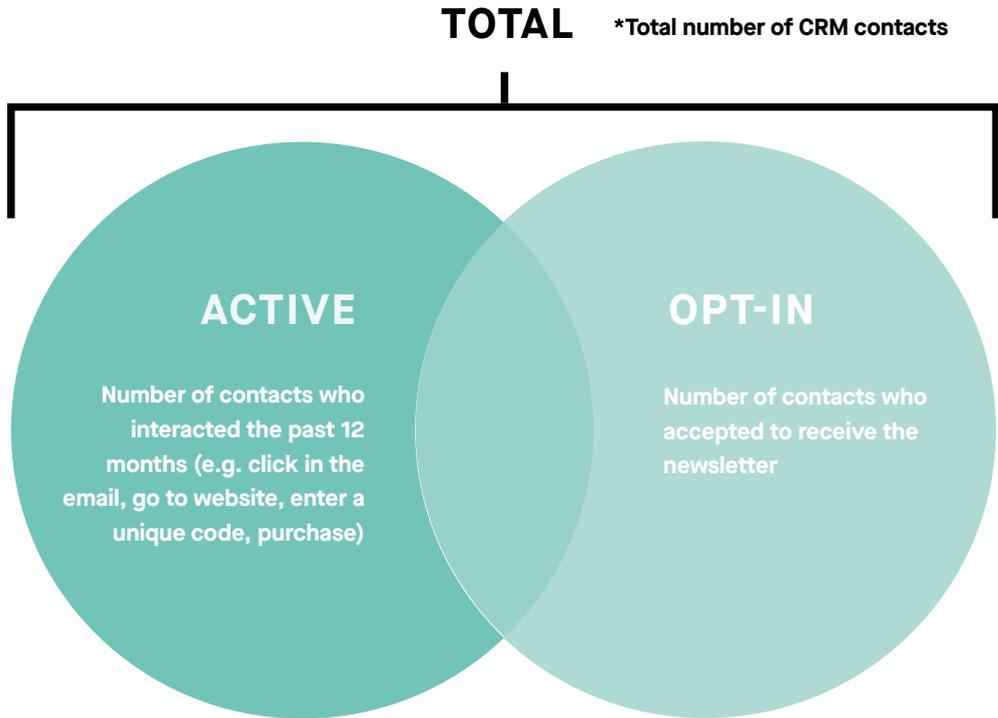
$\frac{5 \text{ persons registered}}{30 \text{ visitors}} = 16.7\%$

COST PER CONVERSION

$\frac{180 \text{ €}}{5 \text{ persons registered}} = 36 \text{ €}$



CRM Contacts



ACTIVE BUT NOT OPT-IN CONTACT

A consumer who registers and logs in regularly on the website but didn't accept to receive any email newsletters

ACTIVE BUT NOT OPT-IN CONTACT

A consumer who receives email newsletters and clicks on it or regularly comes on the website

OPT-IN BUT NOT ACTIVE CONTACT

A consumer who receives email newsletters but never clicks on any link or enters on the website.

WEBSITE

AVERAGE TIME SPENT is a type of visitor report that provides data on the amount of time (in minutes or seconds) visitors have spent on your website.

BOUNCE RATE is used in web traffic analysis and represents the percentage of visitors who enter the site and then leave („bounce“) rather than continuing to view other pages within the same site.

NET TRAFFIC is total amount of sessions minus bounced sessions during a selected date range.

NEW VS RETURNING VISITORS RATIO is the ratio of first-time users (no website cookies set) against returning users (visitor with existing analytics cookies from a previous visit) during a selected date range.

PAGE RANK is an algorithm used by the Google search engine to measure the authority of a webpage. While the details of Page-Rank are proprietary, it is generally believed that the number and importance of inbound links to that page are a significant factor.

PAGEVIEW: Also called page impression, is a request to load a single HTML file (web page) of an Internet site.

SESSION is a group of user interactions with a website that take place within a given time frame (e.g. 30 minutes for Google Analytics). A single session can contain multiple page views, events, social interactions, and e-commerce transactions.

SHARE OF SEARCH: Portion of traffic that a website can expect from a pool of search keywords

TOTAL TRAFFIC: The amount of visits a Web site receives.

TRAFFIC BY DEVICE: Total traffic split up by browsing device. Examples: Desktop, Tablets, Mobile/Smartphones

TRAFFIC BY SOURCE: Total traffic split up by marketing source of visitor. Examples: Direct, Referral, Paid, Display Ads, Social Media, Email campaigns, etc.

UNIQUE VISITORS is the number of unduplicated (counted only once) visitors to your website over the course of a specified time period.

CAMPAIGNS

COST PER ACTION (CPA): Payment model where advertisers pay for every „action“ (newsletter subscription, form submission, account creation, etc.) completed as a result of a visitor clicking on an ad.

COST PER MILE (CPM): Payment model where advertisers pay for every 1000 impressions addressed (e.g. on search queries, websites, etc.) → Advertising p.47

COST PER CLICK (CPC): Advertisers only pay per click on their ads. → Advertising p.47

COST PER VIEW (CPV): CPV is the price that gets paid when a video ad is played. In general the video doesn't have to be watched the whole way through to cause a payment – just started.

CUSTOMER ACQUISITION COSTS (CAC) refer to the resources that a business must allocate (financial or otherwise) in order to acquire an additional customer (e.g. registration, purchase, etc.).

CONVERSION RATE (CVR) is defined as the number of visitors to a website that complete a desired goal (a conversion) out of the total number of visitors. → Advertising p.47

COST PER CONVERSION is the ratio of the number of advertisement views and the number of successful conversions resulting from those ad views. → Advertising p.47

COST PER LEAD (CPL) is an online advertising pricing model, where the advertiser pays for an explicit goal that a consumer interested in the advertiser's offer completed (e.g. sign-up, page view, etc).

SOCIAL

ENGAGEMENT RATE is a metric that measures the level of engagement that a piece of created content is receiving from an audience. It shows how much people interact with the content.

YOUTUBE ENGAGEMENT

Examples: Views, Shares, Dislikes, Likes, Subscriber

TWITTER ENGAGEMENT

Examples: Replies, Followers, Favorites and Retweets

FACEBOOK ENGAGEMENT

Examples: Likes, Comments, Shares, Followers

INSTAGRAM ENGAGEMENT

Examples: Likes, Followers and Comments

PINTEREST ENGAGEMENT

Examples: Repins, Comments, Likes, Followers

SUBSCRIBERS

Youtube users, that subscribe to a specific youtube channel to receive updated about new content publications.

POST IMPRESSION conversions are, for a display ad campaign, online conversions produced by individuals who have not clicked the ad through but have converted later.

RETWEET (RT) is simply a repost of another Twitter user's tweet on your own profile to show to your own followers.

REPIN is adding an image you find while browsing Pinterest to your own board. Repins maintain the source-link of the image no matter how many times it's repinned.

SHARE OF VOICE (SOV): Used mainly in the online marketing field, SOV is the total advertising exposures that your brand gets divided by the total advertising exposures in your category.

SHARE OF ENGAGEMENT (SOE): Used mainly in the online marketing field, SOE is the total engagements that your brand created divided by the total engagements in your category.

EARNED MEDIA VALUE (EMV): Multiplies the impressions generated through earned media with an average market price that would have been charged for such impressions.

NUMBER OF FOLLOWERS: number of unique users following a particular business on a social media network.

NUMBER OF NEW FOLLOWERS: Increase of new followers during a specified date range.

POST IMPRESSIONS: Number of times users have been exposures to ads bought by an advertiser.

POST IMPRESSIONS BY SOURCE: Number of times users have been exposures to ads split up by marketing source of impression. Examples: Organic, Paid, Email, etc.

POST REACH: Number of unique users with at least one page impression.

VIDEO

AVERAGE VIEW DURATION: The average amount of time spent watching a video. If users watch 8 seconds of a 10 second add then the avg view duration is 80%.

AVERAGE VIEW RATE: This rate is the number of videos viewed or clicked divided by number of videos displayed in total.

INSTREAM VIDEO AD: Video ad that plays before, during, and after other videos.

LIVE STREAMING refers to online streaming media simultaneously recorded and broadcast in real time to the viewer. Live stream services encompass a wide variety of topics, from social media to video games.

NUMBER OF VIDEO VIEWS: Number of times a video has been intentionally viewed.

NUMBER OF VIDEO VIEWS BY SOURCE: Total video views split up by marketing source of viewer. Examples: Organic, Paid, Viral, etc.

VIDEO COMPLETION RATE: The percentage of videos that were played to the end of the clip as a % of total views. (incomplete and completed).

EMAIL

CLICK THROUGH RATE (CTR): The number of people who click on a link expressed as % of total, emails delivered.

→ Advertising p.47

CLICK TO OPEN RATE (CTO): Used mainly in email marketing, a CTO is the number of people who clicked on at least one link in an email as % of total emails opened in an campaign

OPEN RATE is the number of people who opened an email as % of total emails sent out in an campaign

OPT-IN CONTACTS: Amount of email addresses of users, that actively accepted to receive emails.

TOTAL CONTACTS: Amount of overall email addresses of users

E-COMMERCE

ABANDON RATE is a term associated with the use of virtual shopping carts. It counts how many of the shopping carts used in a specified period result in completed sales versus how many are abandoned.

AVERAGE ORDER VALUE (AOV) is an ecommerce metric that measures the average total of every order placed with a merchant over a defined period of time.

→ E-Commerce p.46

AVERAGE ORDER VOLUME measures the average amount of products of every order placed with a merchant over a defined period of time. → E-Commerce p.46

AVERAGE RATING is the average rating generated by customers and users for a specific product or service (e.g. number of stars 1-5, etc.) during a specified date range.

COST TURNOVER RATIO is calculated as cost of goods sold divided by average inventory during the time period.

CUSTOMER LIFE TIME (CLV) is a prediction of the net profit attributed to the entire future relationship with a customer. The CLV differs depending on customer group segmentation.

PRODUCT RETURN RATE is the number of users returning the purchased product or service as to total purchases during a specified date range. Return rates vary significantly by product category.

SALES CONVERSION RATE is the number of successful purchases as of total traffic of a website (e.g. sessions, unique visitors, etc.)

TOTAL REVENUE: Total order value amount during a specified date range.

→ E-Commerce p.46