MARKETING
INTELLIGENCE
REVIEW

NIM Nuremberg Institute for Market Decisions

MarTech and SalesTech

AUTOMATION › DATA MANAGEMENT › INTEGRATION SERVICES ›
PLATFORMS › AI EXPERIENCES › HYBRID MARKETING ›
HYBRID SERVICES › ROBOTS › METAVERSE

Nürnberg Institut für Marktentscheidungen e. V.
Founder and anchor shareholder of GfK SE
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FROM ACADEMIC RESEARCH TO PRACTICAL USE

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NIM Marketing Intelligence Review

The Journal of the Nuremberg Institute for Market Decisions

The NIM Marketing Intelligence Review is directed at managers and all decision-makers who are interested in new research findings, › current marketing topics and emerging marketing trends.

The journal is published twice a year and is designed as a themed issue. Each issue features a current topic in marketing and market decision-making. The articles present › academic research and findings that are translated for practical use. They provide marketing knowledge and impulses from top international experts for the marketing business – also with the aim of improving market decisions.

The publisher of the NIM Marketing Intelligence Review is the › Nuremberg Institute for Market Decisions (Nürnberg Institut für Marktentscheidungen e. V. – in short: NIM). The NIM is an interdisciplinary, non-commercial research institute focused on the research question of how decisions are changing due to new trends and technologies and how people can make better decisions in markets.

The institute is the founder and anchor shareholder of GfK SE.

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Editorial

About a decade ago, software entrepreneur Marc Andreessen claimed that "software is eating the world." He predicted that software companies would disrupt traditional industries. He was right. Today, the world's largest taxi company, UBER, owns no vehicles. The world's most popular media owner, Facebook, creates no content. The most valuable retailer, Alibaba, has no inventory. The world's largest accommodation provider, Airbnb, owns no real estate.

On top of these disruptions, the coronavirus pandemic hit the world and changed consumer preferences and working habits, and the number of available marketing technology tools ("MarTech") and sales technology tools ("SalesTech") exploded. Marketers and sales managers must face the challenges that evolve from the increasing availability of technologies. They enable automated marketing and sales processes that scale and generate additional sales opportunities. Still, the new technologies are not welcomed by everyone and have no sure-fire success.

In this issue, we explore the opportunities and challenges of MarTech and SalesTech and discuss how to prepare our organizations for embracing such technologies. What is the impact of privacy regulation? Will technologies enable employees and suppliers to cooperate effectively – at the office, from home and even in the metaverse? How should organizations set up teams in those hybrid worlds, and can AI and robots support human members? Should organizations address consumers' fears of being exploited and misunderstood by technologies?

Join us to explore the opportunities and challenges driven by technologies in marketing and sales. We hope our articles inspire you to even better embrace these technologies.

Happy reading!

Bernd Skiera

Frankfurt, August 2022

MarTech and SalesTech

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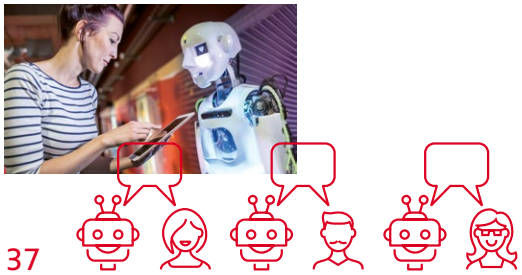

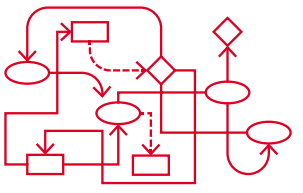

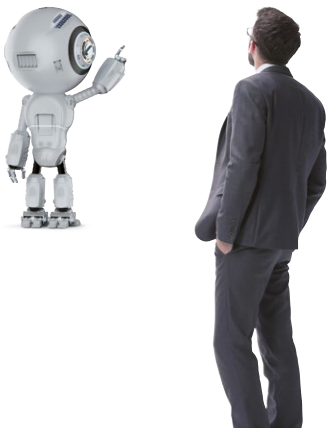

Executive Summaries

Challenges of Marketing Automation: Linking MarTech and SalesTech

Bernd Skiera

The number of marketing and sales automation tools has grown tremendously over the past years. They enable automated marketing and sales support at scale and at low and often even zero marginal costs. Companies can pursue even small sales opportunities, and the sheer size of these sales opportunities can ultimately yield a growing and profitable business. But automation is not easy and often requires reorientation and significant investments. One of the largest challenges companies face is integrating data from different systems. A whole new category of mostly cloud-based services has developed to support companies. Enterprise Integration Platform as a Service (“EiPaaS”) solutions provide data integration support and compliance with privacy regulations.
They assist companies in becoming tech-savvy and embracing information technology opportunities.

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Hybrid Marketing Is Here to Stay: Preparing the Marketing Operation Environment

Andy Lark and André Bonfrer

The pandemic-triggered distance didn’t just change how we collaborate and communicate; it also set marketers, consumers and businesses on an entirely new path. We need to rethink how marketing operates, how it attracts and onboards talent and what type of technologies enable a hybrid-first organization. New imperatives are reshaping the marketing agenda across people, technology and processes. Businesses need to develop workplaces, skills and culture for hybrid marketing teams. To avoid duplication of functionality, additional cost and complexity, CMOs should attempt to standardize and integrate tools and impose discipline around critical systems of record. They need to re-examine the marketing supply chain, redefine customer experiences at scale for a contactless world and deepen capabilities to manage, analyze and combine data. Hybrid working necessitates a new lens on how marketing synchronizes people and processes, and MarTech will play a key role in setting up the new marketing operation environment.

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Consumer Experiences with Marketing Technology: Solving the Tensions Between Benefits and Costs

Stefano Puntoni, Rebecca Walker Reczek, Markus Giesler and Simona Botti

The growing ubiquity of AI in consumers' lives can be very convenient, but even if software developers and marketers strive to create excellent service, consumer experiences are not always positive. During their customer journeys, consumers experience "data capture," which is the experience of granting one's data to AI, and "classification," which means receiving personalized recommendations generated by AI. In both experiences, consumers may either feel served or exploited and understood or misunderstood. To live up to the promise of making consumers happier and more efficient, managers should pay attention to consumers' anxieties. If managers understand when and why consumers feel exploited or misinterpreted by AI, companies can provide more value for consumers individually and take concrete steps to design improved experiences around data collection and classification.

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Building a Revenue Engine – Scaling Up Sales Automation

Emma Storbacka and Kaj Storbacka

The scalability of sales automation is dependent on a company's capacity to create and operate use cases. For businesses not systematically scaling up data utilization and automation, increasing levels of "digitalization" may negatively impact financial performance. Successful companies focus on building a revenue engine to achieve a scaled impact and a flat or even declining cost base. To scale, companies need to stop structuring their digital transformation initiatives via the platforms they are implementing and start using a use-case-centric lens. In a use-case-centric logic, business priorities and applications are the starting point. Use cases leverage the available data through automation and employ digital platforms as supporting tools to drive specified business objectives. In most companies, existent practices need to be challenged, and the methodology and process will require leadership skills. Managers need to understand the effort required to reach the target automation level, and to keep the engine running, marketing and sales need to improve their data literacy.

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The Robot and I: The Rise of Hybrid Service Teams

Jochen Wirtz, Stefanie Paluch and Werner Kunz

Robot- and AI-delivered service offers unprecedented economies of scale, as the bulk of the costs are incurred in development. Physical robots cost a fraction of adding headcount, and virtual robots scale at close to zero incremental costs. However, the relative strengths of humans and robotic services differ and are thus best deployed in different contexts. Humans can respond better to individual contexts and show better understanding in complaint and service recovery situations. At the same time, service robots can deliver services effectively that require high cognitive and analytical skills. For example, service robots can analyze large volumes of data, integrate internal and external information, recognize patterns and relate these to customer profiles. To get the best of both worlds, organizations should focus on implementing, managing and fine-tuning the deployment of robot-employee-customer co-creation teams to ensure and constantly increase the quality of their customer interactions.

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Metaverse Marketing

Thorsten Hennig-Thurau and Björn Ognibeni

Some activities you do alone in a virtual environment might be better or substantially cheaper in the metaverse than on the 2D internet. Yet the real value of the metaverse is the social component of its environment. Companies can harvest this potential in various contexts. At work, the metaverse can be used for meetings and training in atmospheric settings equipped with various tools and with zero travelling costs. For consumers, it offers joint consumption opportunities, encompassing many fields of entertainment, such as watching movies, playing games and attending events, and shopping. And many services can benefit strongly from the unique "closeness" of customers and employees. The metaverse will grow strongly but not exponentially. Companies should get familiar with the new space and start small, exploring what works and what doesn't and trying to understand what the metaverse shares with the physical world – and what sets it apart.

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The Next Frontier in Intelligent Augmentation: Human-Machine Collaboration in Strategic Marketing Decision-Making

Nina Hesel, Fabian Buder and Matthias Unfried

One way to support consumers in their decision-making is by using product labels or quality seals. The labels help consumers decide whether products meet their own needs and preferences. As the main function of labels is to highlight product characteristics in a simple and transparent way, designing a label is a big challenge: On the one hand, they have to be concise and allow for easy orientation; on the other hand, they often have to explain complex criteria and information. This study shows that the design of a label has a direct impact on the assessment of a product and on purchasing behavior. To ensure that a label works as intended and produces the desired effects, it should be tested in advance. Both consumer perception and the resulting choices can be tested in practice. If decision biases are observed, the label can still be modified. To fully use the potential of product labels, it is important to know and optimize their effect.

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The Role of Technology in Modern Marketing

Interview with Scott Brinker, blog author and MarTech pioneer

Modern marketing relies increasingly on technology. This trend began more than a decade ago and got another boost during the ongoing pandemic: Over the last few years, the technology landscape has experienced an explosion of available applications. While apps and software are collecting and deploying more and more data, privacy legislation is being put in place by many countries, limiting the scope of what marketing is allowed to do with data. In this challenging environment, will MarTech still thrive? How can managers organize and integrate different applications and govern MarTech to comply with consumer expectations and regulations? In this interview, MarTech guru Scott Brinker shares his thoughts on the evolution of platforms, services and technology and how marketers can successfully implement the most promising MarTech applications.

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New technologies enable automated marketing and sales support at scale and at low and often even zero marginal costs.

Challenges of Marketing Automation: Linking MarTech & SalesTech

Bernd Skiera

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MarTech, SalesTech, Marketing Automation, EiPaaS, Artificial Intelligence (AI), Data Quality, Privacy

THE AUTHOR

Bernd Skiera
Professor of Electronic Commerce,
Goethe University Frankfurt, Germany
skiera@wiwi.uni-frankfurt.de

No more marketing without technology ⚔ Marketing and sales are functions that rely increasingly on technology. As more technology tools emerged to meet the needs of modern marketing and sales, marketing technology tools have collectively become known as MarTech and sales technology tools as SalesTech. According to the provider of the MarTech Map, Scott Brinker, the number of marketing tools has grown tremendously: from 150 in 2011 to 9,932 in 2022. Fewer sales technologies exist, but their growth is equally impressive. With this abundance and increasing adoption, marketers can increase their chances of success. But automation is no sure-fire success. Indeed, it often requires reorientation, restructuring, organizational learning, new skills and talents and significant investments, as Lark and Bonfrer argue in their article in this issue (p. 19).

Reasons for the widespread use of MarTech in consumer markets ⚔ The increasingly digitalized world facilitates automating processes, including marketing and sales processes. Consider, for example, a consumer visiting an online shop, filling their shopping basket with a pair of sneakers but leaving the shop without purchasing. Nowadays, it is common to contact this consumer again, e.g., via retargeting the consumer with personalized display ads showing the selected pair of sneakers on another website or sending a personalized email that could include a coupon with a rebate. Humans plan these marketing actions, but technology tools execute them automatically, including evaluating when to stop these activities. In this process, the actions could be complex and consider the consumer's reactions.

For example, the online retailer could first send a promotional email for the sneakers without a coupon. Suppose the consumer opens the emails and examines the product again in the online shop but still does not make a purchase. In that case, the online retailer could decide to send another email, this time including a coupon with a price discount,

» *Marketing and sales need to work together, which is challenging from a human, organizational and technical perspective.* «

because the consumer's behavior indicated an interest in the product, but not at the current price. The online retailer might continue doing so the next time that the consumer does not instantly purchase a product, but not the third time, because the online retailer does not want the consumer to learn that the behavior of abandoning a shopping basket leads to lower prices.

MarTech makes it possible to execute these actions automatically, at scale and at low and often even zero marginal costs. So companies can pursue even small sales opportunities, and the sheer size of these sales opportunities can ultimately yield a growing and profitable business. The success of online retailers, such as Amazon or Zalando, builds upon such automation. They certainly benefit from the fact that the consumers purchase online and usually do not require human advice. Increasingly, these retailers also use artificial intelligence (AI) to improve these processes, e.g., for calculating the optimal price discount.

The role of MarTech and SalesTech in B2B markets Despite the vast opportunities that the digital world provides, many companies, in particular in business-to-business, continue to rely on salespeople to sell their products. That is unlikely to change, although remote selling has become more popular. However, what changed is that potential customers are nowadays much better informed when talking to salespeople because the internet provides so much easily accessible information. Thus, the potential customers start talking to sellers later in their purchase process. They also more strongly limit the number of companies they contact. Consequently, companies must work even harder to get into the consideration sets of potential customers to generate leads.

A good sales process involves attracting, nurturing and converting leads into existing customers. Attracting leads requires a broad range of activities, from branding or public relations to promotional material. Lead nurturing focuses on leads that are not yet ready to buy and aims to develop them into prospects that are ready to buy, e.g., by providing them with content that helps them move forward in their purchase process.

Marketing is often responsible for attracting and nurturing leads. In contrast, sales, or the salesperson, is usually responsible for converting leads. So marketing and sales need to work together, which is challenging from a human and organizational perspective because they often belong to different departments with different responsibilities, incentives and employees with different backgrounds. Yet it is also challenging from a technical perspective because marketing and sales often work with different software, and even within marketing and sales, several software solutions, also referred to as "apps," are used. They all require integration, which is cumbersome. In our interview (p. 54), Scott Brinker emphasizes: "The single greatest challenge with MarTech today is integration." A new category of solutions has emerged to solve the integration challenge: Enterprise Integration Platform as a Service (EiPaaS).

Enterprise Integration Platform as a Service (EiPaaS) The success of the German software provider SAP builds upon the simple idea that SAP provides a wide range of software solutions, and all solutions are perfectly integrated. Essentially, it means that all software solutions consistently access the most recent data and automatically start the necessary processes whenever data changes. If such a solution existed, it would be fantastic. The reality, however, is different. Even the largest software providers can only cover a subset of all necessary solutions. The increase in MarTech tools illustrates the challenge that large software providers face. As a result, they acquire other software providers, which they afterward need to integrate into their own software, often with moderate success. And even then, the solutions still require integrating other solutions.

The alternative is to rely on best-of-breed solutions and integrate them, often using an Enterprise Integration Platform as a Service, or "EiPaaS," sometimes also referred to as "iPaaS" (see Box 1). These systems could cover best-of-breed solutions but, of course, also marketing or sales suites. Such solutions further help to address the challenge of high turnover of apps in companies. For example, Blissfully's "SaaS trends report 2020" outlines that companies replace roughly 30 % of their apps every two years.

BOX 1

How Enterprise Integration Platform as a Service (EiPaaS) solutions operate

EiPaaS is a platform that connects otherwise disjointed systems to derive an integrated solution. It acts as a conduit for communication between several systems, enabling data integration and sharing. The core idea of EiPaaS is to have an engine and an extensive range of adapters. Figure 1 illustrates this idea for the simple integration of two systems of a company. In our illustration, the company is Adidas, and the two systems are SAP (C4C) and HubSpot. The EiPaaS solution is from the German provider Marini Systems.

The engine of Marini Systems manages the exchange of data between the two systems. As is typical for an "as-a-service" solution, it sits in the cloud. It must be scalable, secure, GDPR-compliant, contain user management and enable planning, testing, reporting, documenting and debugging, among other additional functionalities.

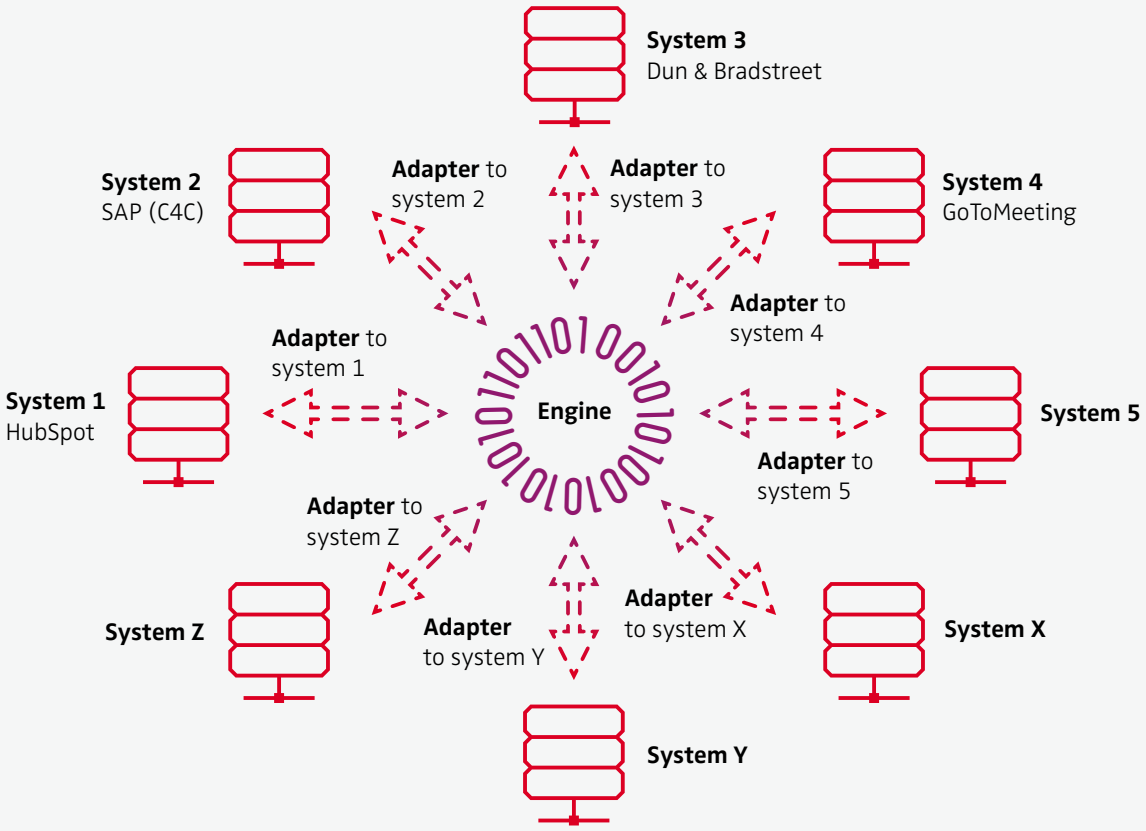
FIGURE 1 > Integration of two systems via EiPaaS

Database of customers in HubSpot | **Adapter** to database of customers in HubSpot | **Engine** of Marini Systems | **Adapter** to database of customers in SAP (C4C) | **Database** of customers in SAP (C4C)

The adapters are part of the EiPaaS solution and adapt the engine to the database in each system. In Figure 1, it requires having one adapter for Adidas' customer database in SAP (C4C) and one for the customer database in HubSpot. Both databases are accessible via Application Programming Interface (API), but it is also feasible to integrate locally installed on-premise databases that do not rest in the cloud. Essentially, the adapters describe the specific database, like the fields it contains and the requirements that the values in each field have to fulfill, such as being numeric.

Adidas has to create a plan for each pair of systems or, more precisely, the databases of both systems. The plan describes how to exchange data between the databases of both systems, HubSpot and SAP C4C. It involves mapping the fields of both systems: For example, Adidas has to link the field "name" of the HubSpot system to the field "surname" of the SAP C4C system. Adidas also has to define the requirements these mappings must fulfill, e.g., the telephone number has to be numeric. Other requirements include the frequency of exchanging the data (e.g., real-time, once a day, upon certain events such as signing up at the website of Adidas to attend the presentation of a new collection in one of their stores) and whether the data transfer is unidirectional or bidirectional.

FIGURE 2 > Integrating multiple systems with Enterprise Integration Platform as a Service (EiPaaS)



The challenge of avoiding duplicate data ✕ A big challenge for successful MarTech and SalesTech implementation lies in exchanging the data so that no duplicate records occur. Duplicates emerge quickly because the values of the fields in the different systems can easily differ. For example, one system contains the street as "83 Middle Rd," the other as "Middle Road, 83." So the exchange could conclude that the individuals "Ron Miller, living in 83 Middle Rd" and "Ron Miller, living in Middle Road, 83" represent two different individuals. While a human can easily spot this error, it quickly becomes more cumbersome. For example, it is more difficult to spot that the two names of companies, "Meta" and "Facebook" actually refer to the same company. Some data providers, such as Dun & Bradstreet, have specialized in solving this challenge. They could help by providing a unique identifier for each company, e.g., the Dun & Bradstreet D-U-N-S Number. So instead of mapping onto fields like the name of the company or its address, it maps onto the D-U-N-S Number. So a unique identifier such as the D-U-N-S Number avoids duplicate records and helps to enrich the data on prospects and customers, like their owners, their management and insights on the financial strength and type of business, including information about ESG (environmental, social and governance) criteria and money-laundering. In our example, Adidas would have to integrate another system, Dun & Bradstreet, in addition to HubSpot and SAP.

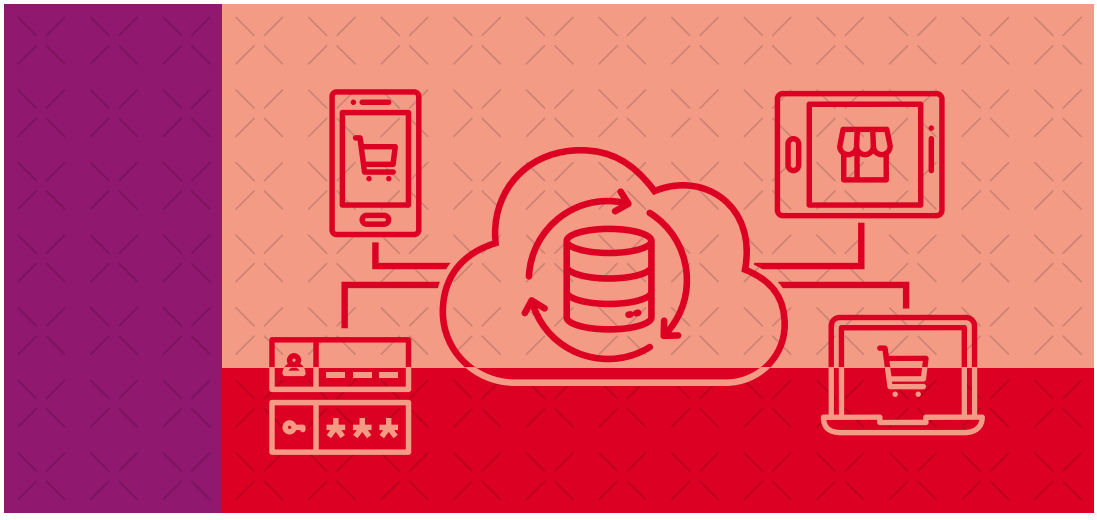
It is easy to imagine that Adidas requires the integration of other systems because they provide functionality that neither HubSpot, SAP or Dun & Bradstreet provides. For example, companies use webinars to generate leads that require adding systems such as GoToMeeting. The core

A big challenge for successful MarTech and SalesTech implementation lies in exchanging the data so that no duplicate records occur.

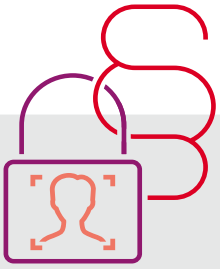
idea of an EiPaaS is to simply add additional systems to the engine via an adapter that the EiPaaS provider needs to develop only once. Figure 2 outlines the idea. The engine of the EiPaaS solution connects all systems or, more precisely, the databases of all systems. A plan describes each connection between two systems that the engine connects. As in the case of two systems in Figure 1, the plan maps the fields between the two databases, including the direction of the transfer of the data, etc. The engine can also document all exchanges between the systems.

Tech outlook for marketers

› **Automation creates new opportunities** MarTech and SalesTech make it possible to automate processes at scale, and Storbacka and Storbacka describe how companies can implement a "revenue engine" for promising use cases (p. 31). Such automation can save costs, but the major advantage is that it enables to realize additional sales opportunities. Take the retargeting example from the beginning of this article: the probability of selling the sneaker to the consumer with the abandoned shopping basket is small, but many such opportunities exist. Without automated solutions, it would not be feasible to pursue these opportunities. Marketers need to know how to plan the processes that underlie such automation that is often hyper-personalized, i.e., personalized for thousands of prospects or customers. And personalization not just means that we use the proper name but also offer the right product with the right message at the right time. For example, customers ordering around lunchtime also indicate that they might be more attentive to marketing messages sent around lunchtime.



BOX 2



The privacy challenge: ensuring legal compliance and consumer acceptance

The increasing focus on consumers' privacy with regulations such as GDPR (General Data Protection Regulation) or the upcoming ePrivacy regulation in the European Union have put an even stronger focus on each company's integrated data.

GDPR aims to give users more control over their personal data by defining user rights to understand, change and restrict personal data processing. It increases the responsibilities of all actors who process personal data. For example, a company must specify a legal basis for personal data processing. The two applicable legal bases for marketing are mostly legitimate interest and consent.

Companies can apply the legal basis of legitimate interest if the personal data processing is necessary for their legitimate interest unless such interests are overridden by the interests or fundamental rights and freedoms of the user. To claim this legal basis, companies must provide documentation case-by-case showing that their legitimate interests in processing a user's personal data outweigh the user's interests in not having the data processed.

For the legal basis of consent, a user must give voluntary, informed and unambiguous consent with an explicit affirmative action for one or more specific purposes of personal data processing activities. Loosely speaking, legitimate interest represents the opt-out approach for getting permission for personal data processing, whereas consent represents an opt-in approach. Usually, an opt-in approach yields lower consent rates for personal data processing than an opt-out approach.

Independent of legal requirements, privacy is a delicate topic. Not all consumers welcome technology and AI in their daily lives, as Puntoni et al. analyze in their article (p. 25). Companies should take consumer anxieties and concerns about data collection and usage seriously and act transparently and responsively to avoid resistance.

› **Artificial intelligence (AI) and virtual reality can make automation smarter and more human** ⨯ AI can make automation even smarter and, thus, more successful. It can improve decision-making and assist managers in increasingly more complex situations, as Hesel et al. describe in their article (p. 49). AI and robots are also finding their way into more and more service contexts. Wirtz (p. 37) explains how AI, robots and even holograms can improve the user interface via natural language processing or by scanning vast amounts of data quickly to identify the best solutions and how human-robot-teams can cooperate successfully. In sales, AI can identify cross-selling opportunities, the optimal alignment of prospects to salespersons or personalized offerings. As technology offers new customer touchpoints, their quality becomes even more critical, and virtual reality (VR) can play a crucial role in improving this experience. Whole new "worlds," like the metaverse, offer new ways to interact with consumers and to cooperate distantly within organizations. Hennig-Thurau and Ognibeni (p. 43) provide remarkable insights into what marketers could achieve in the metaverse.

› **"No code" enables marketers and salespeople to implement automated processes themselves** ⨯ One of the bottlenecks of marketing automation is the restricted availability of tech and data experts. Therefore, the industry increasingly provides "no code" or at least "low code" solutions for setting up automation plans. "No code" means that the user needs no programming skills; "low code" refers to few programming skills. The huge advantage of "no code" solutions is that the user with the substantive knowledge, in our case, marketers or salespeople, can create and change applications, which often avoids delays in implementing solutions because of the

Companies must document their legal basis for personal data processing, which requires integration with other data.

large backlog of coders and data scientists. So marketers can implement such processes much faster and better react to market developments, yielding a competitive advantage.

Compliance with privacy regulations is mandatory but tricky Companies must document their legal basis (Box 2) for personal data processing, which requires integration with other data. For example, getting consent from a user for personal data processing via a cookie consent banner but not being able to integrate this consent with the CRM data represents a missed opportunity for personalized marketing messages that build upon this user's behavior. Having consent in the CRM data but asking the user via a cookie consent banner a second time for consent and not getting the consent also represents a problem. And it could become even more challenging if the regulator enforces a requirement that companies make it as easy to withdraw as to provide consent.

Statements such as "third-party cookies are dead" describe the problem that companies face increasing difficulties in relying on other companies' data with their marketing. So, for example, instead of providing a third party with information about my customers, e.g., their cookies, companies now need to make sure they use their (first-party) information to provide the best customer experience. That requires, for example, realizing which customers visited the website and automatically informing salespeople about the interest that these customers revealed on the website.

Furthermore, the "right to be forgotten," implemented in several privacy laws such as GDPR, requires that companies delete a user's personal data at the user's request or after a specific time. Implementing such requests is challenging and risky if the data is not integrated. It certainly helps if the engine of the EiPaaS solution documents all the exchanges of personal data between systems. Errors in not complying with GDPR can lead to heavy fines that could be as high as 4% of a company's global annual revenue or €20 million, whichever amount is higher.

Marketers need to embrace technology The digital transformation started some time ago, but most companies still have miles to go. Integrating MarTech and SalesTech and lately also new technologies for remote and hybrid work is a real challenge for many of them. A whole "as a service" industry has developed to assist companies in becoming tech-savvy and embracing the opportunities that information technology provides. Yet without integrated data, marketers will not get very far. Nonintegrated data essentially means "garbage in, garbage out." New approaches, like EiPaaS, exist to facilitate this cumbersome task of managing and integrating data. They will help marketers build an accurate 360-degree view of their customers to provide great experiences on their individual and hybrid customer journeys.

FURTHER READING

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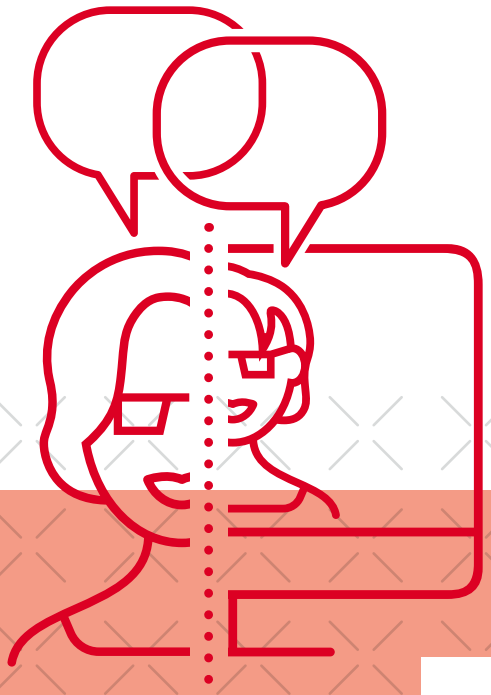


We need to rethink how marketing operates and we have to support hybrid-first organizations with new technologies. →

Hybrid Marketing Is Here to Stay: Preparing the Marketing Operation Environment

Andy Lark and André Bonfrer

KEYWORDS

Hybrid Work, Hybrid Marketing, Collaboration, Marketing Operation, MarTech

THE AUTHORS

Andy Lark
CEO, Group Lark and Chief Customer Officer, Dubber Corporation Ltd., Victoria, Australia
andy.lark@dubber.net

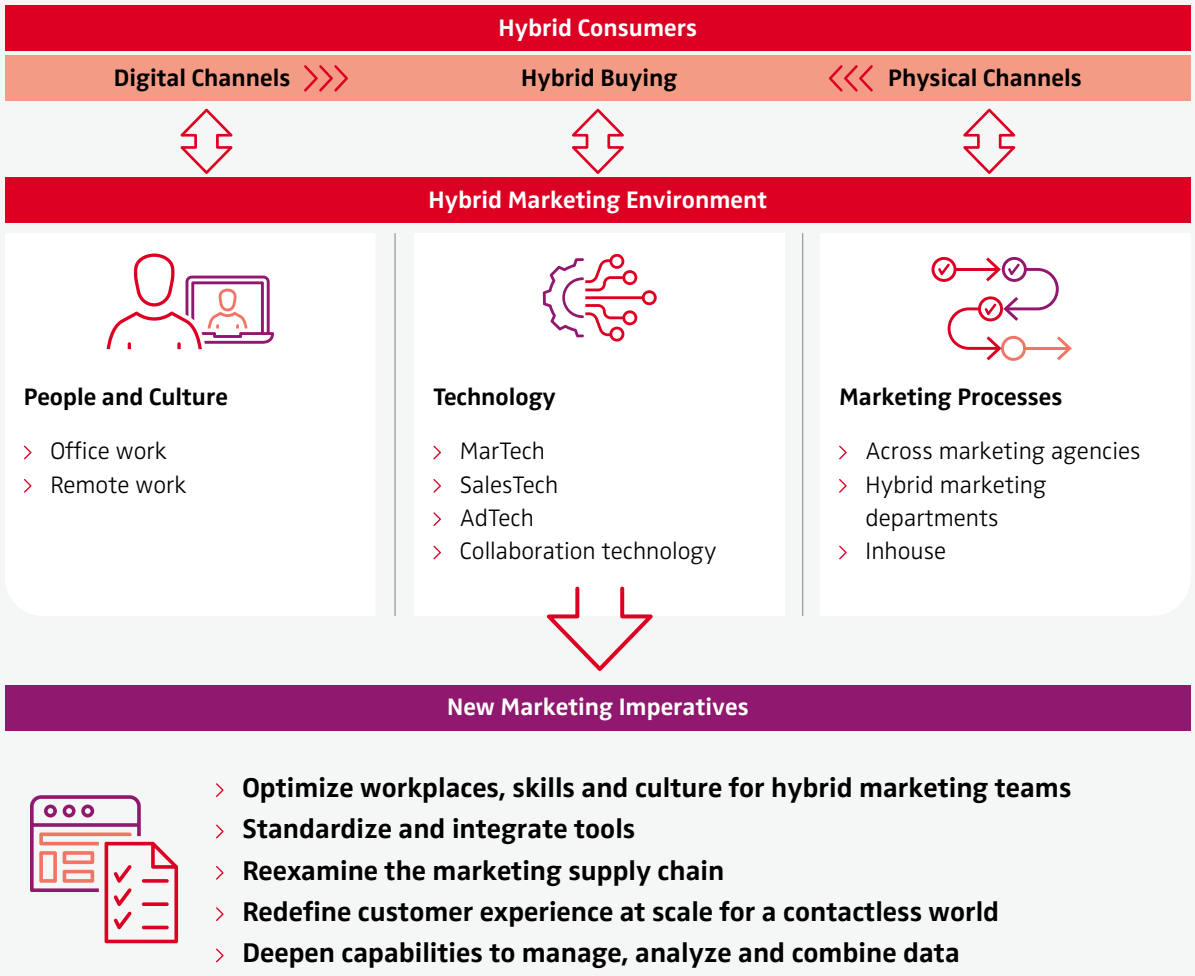
André Bonfrer
Professor of Marketing, Deakin University, Victoria, Australia
andre.bonfrer@deakin.edu.au

The post-pandemic marketing playground The pandemic's initial impact has changed where we work and how we collaborate and communicate, blurring the lines between home and workplace. Hybrid working has entered mainstream vernacular to describe workers moving fluidly between the traditional workplace, home and other venues. What was first a necessity has emerged as a preference for many. It has developed into a workforce policy, with marketing teams and stakeholders needing to collaborate and communicate remotely and often asynchronously. Communication platforms such as Zoom and Microsoft Teams have shifted from being tools connecting remote workers to the workplace to becoming the new workplace itself.

But distance did not just change how we collaborate and communicate; it also set marketers, consumers and businesses on an entirely new path. Distance also shifted how customers buy and what they expect. Consumers are heading to digital-only experiences for interactions ranging from grocery shopping to telehealth, and they are not looking back. They have changed their purchasing behaviors and preferences – creating a need for a new set of customer experiences (CX) throughout the buying lifecycle. These developments will persist and require marketers to develop a broader strategy to address people and processes and use new technology to meet employee and customer needs.

Shaping the marketing organization for the new environment: new marketing imperatives Together, these factors are driving a redefinition of the marketing organization. We need to rethink how marketing operates, how it attracts

FIGURE 1 › New marketing imperatives for a hybrid marketing environment



and onboards talent and what type of technologies enable a hybrid-first organization. The following new internally and externally focused imperatives are reshaping the marketing agenda across people, technology and processes. The five imperatives listed in Figure 1 have the potential to create a new foundation for marketing.

› **Optimize workplaces, skills and culture for hybrid marketing teams** ✕ Marketers have been driven to new working patterns internally and externally with suppliers. However, while the place of work changed during and after the pandemic, many tools and techniques have not changed substantially to enable and reflect hybrid working. Barriers to successful hybrid work include a lack of workplace innovation, inadequate oversight and cultural shifts. Examples abound: inefficient connectivity, which forces everyone to use VPN for access to work-related material; traditional IT and security, which focuses on command and control centrally rather than a distributed system that more adequately services remote workers; and traditional KPIs or monitoring of staff, which has presence count more than results and expects remote workers to continue to adhere to rigid work schedules rather than when and where it most suits them.

While the place of work changed during and after the pandemic, many tools and techniques have not changed enough to enable and reflect hybrid working.

Despite the hyper-connectedness experienced by many during the pandemic, culture and engagement have declined due to the lack of physical presence, resulting in isolation and difficulty in onboarding new workers remotely. Therefore, creating a clear definition of new workplace expectations and processes for marketers and equipping them to succeed will be central to retaining and attracting talent and nurturing a high-performance environment. When transitioning to a thriving hybrid-first work environment, businesses need to invest in strategy, build culture remotely and apply new technology – specifically artificial intelligence (AI) – in critical business use cases. While the pandemic has accelerated the digital skills of existing workers and new talent, a skills gap is prevailing because digital transformation has moved faster.

› **Standardize and integrate tools for hybrid marketing** The proliferation of technology service providers, along with Software as a Service (SaaS) and cloud computing, has significantly increased marketing applications. Today's marketing functions typically draw on more than 25 tools, ranging from communications platforms to productivity, data and task-specific tools. The proliferation of these tools risks considerable duplication of functionality – for instance, chat and tasks occur across several tools like Zoom, MS Teams, Figma, Asana and more. As a result, hybrid marketing has become more costly and complex, imposing a productivity burden on marketers. Therefore, CMOs should attempt to standardize and integrate tools and impose discipline around critical systems of record.

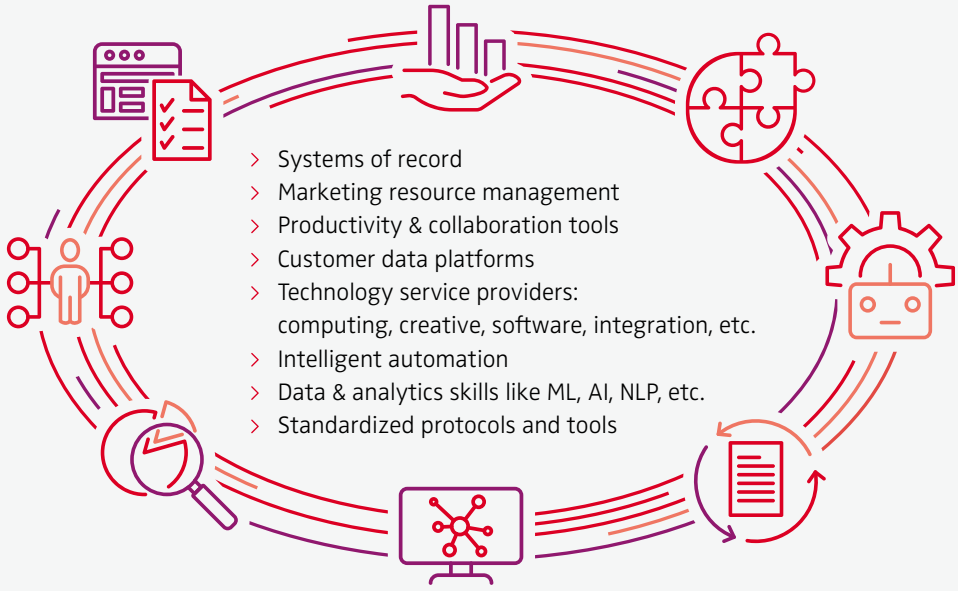
While much of the focus of the past decade shifted to marketing automation and data, effective Marketing Resource Management (MRM) platforms are central to operationalizing hybrid working – giving marketers the systems of record and tools to collaborate, create and manage projects remotely. Cloud collaboration platforms ranging from task and project management to modernized digital asset management can shift marketers to a more agile operating model that empowers teams to accelerate decision-making based on data and test-and-learn approaches.

› **Reexamine the marketing supply chain** Marketing supply chains, which produce marketing materials required for implementing marketing activities ranging from display advertising to digital point of sale content or digital merchandising content, are poorly defined and instrumented. They span all vendors and suppliers – agencies, media providers, production, contractors, etc. While procurement teams are often heavily involved in pricing in larger organizations, few marketing organizations have access to mature supply chain management disciplines or standardized platforms on which the entire marketing supply chain can operate.

Instead, every supplier brings new tools and technology to the table, increasing cost, compliance risks and complexity, making it challenging to scale. Organizations have been able to bridge some of this complexity through direct human interaction, but handling the challenges becomes significantly more difficult in a hybrid workplace. Therefore, leading marketers are shifting their focus to standardized platforms on which their supply chains run. Integration applications or protocols, like API and iPaaS, enable data and work to move seamlessly into a single system of record.

Scaling is necessary across remote locations and an ever-increasing spectrum of rich media, like video, VR and others. As a result, a new class of vendors has emerged over the past two years, delivering Creative as a Service (CaaS) solutions – combining people, process and technology in a unified offering to marketers, agencies and third-party and in-house production studios. These modern CaaS solutions deliver a range of critical functions – including brief ingestion, workflow management and asset management – via the Cloud and within the framework of simple and easy-to-manage Software as a Service (SaaS) pricing models. These solutions focus predominantly on amplifying and optimizing existing creative assets. They simplify compliant scaling across multiple media formats and can significantly reduce marketing costs.

FIGURE 2 › MarTech tools, capabilities and protocols enhancing hybrid marketing



› **Redefine customer experience at scale for a contactless world** ✕ Consumers' rapid adoption of digital channels has cemented new buying behaviors and the importance of convenience. Online spending increased significantly in 2020, and most consumers who started online shopping during the pandemic have kept using online channels. Therefore, providing and scaling digital and contactless CX is becoming more important.

CX has traditionally been directed by business strategy first. Physical retailers focused on optimizing in-store experiences and augmenting those experiences with digital offerings. The rise in digital native companies with a high dependency on frictionless CX has reset customers' expectations and changed how they interact with companies. Hybrid marketing requires equipping marketing teams with superior data capabilities to create more personalized and responsive experiences in an increasingly impersonal world. Therefore, we are seeing a rapid shift from customer relationship management platforms as the primary record of customer interactions to Customer Data Platforms (CDPs). CDPs allow marketers to deliver a more comprehensive view of customers, enabling brands to meet customers in buying moments and to create moments that customers experience as timely, relevant and compelling.

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CMOs should attempt to standardize and integrate tools and impose discipline around critical systems of record.

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Similarly, where MarTech once primarily focused on utilizing centralized and third-party platforms, decentralized platform technologies like blockchain or crypto-marketing are reshaping how marketers and customers create, store and exchange value, promising to enhance loyalty through richer contact patterns and higher personalization. For example, blockchain-based ventures such as Australia's Liven enable restaurants, bars and hospitality venues to mint currency on the Liven platform and use it to incentivize customer behavior through rewards on purchases and forward purchasing of meals. Platform network effects fuel a greater frequency of visits for all Liven ecosystem venues to secure greater customer engagement.

› **Deepen capabilities to manage, analyze and create new data sources** ⤫ Marketers' rapid adoption of CDPs reflects marketers' insatiable demand for data. Driven by the promise of AI, the demand for deeper marketing analytics and insights can be met by mining and transforming diverse types of data – from remote conversations and interactions – to building new models of operation for specific business functions.

The combination of AI, machine learning (ML) and natural language processing (NLP) allows marketers to view real-time data to know both customers and employees. Conversations across video conferencing platforms such as Microsoft Teams and Zoom, mobile calls and chatbots now deliver real-time satisfaction, intent and buying signals as they convert the conversation automatically to data. Where marketers once depended on post-event surveys, they now potentially have minute-by-minute signs of intent and experience from which to enrich predictive analytics. Through the combination of AI, NLP and ML – specifically in speech-to-text and analysis – marketers can close the distance imposed by hybrid working and customer interactions. These tools enable marketers to analyze the sentiment in customer conversations in real-time, alerting managers to potential conflicts requiring assistance or suggesting a different script for the operator to follow.

Managers can gather the most important or impactful topics and themes raised in a meeting and turn them into meeting minutes and tasks. They can also gauge employee engagement in projects to either support less engaged staff or foster those who are most engaged. Marketers can determine interest levels in different brands, products or services during conversations with customers to gain additional market insight. These capabilities must be harnessed carefully with specific guardrails guiding consumer and employee privacy and rights.

A new foundation for marketing is needed ⤫ Hybrid work will be the default by 2024, with most CMOs believing hybrid work will be the dominant working model and more than half of work conducted off-site. Despite a rapid response to the challenges of COVID, three out of four businesses still lack a detailed hybrid working strategy and the right key performance indicators (KPIs) to support hybrid working models. Hybrid working necessitates a new lens on how marketing synchronizes people and processes, and MarTech will play a key role in setting up the new marketing operation environment. ⤫

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Managers should take concrete steps to design improved consumer experiences around data collection and classification.

Consumer Experiences with Marketing Technology: Solving the Tensions Between Benefits and Costs

Stefano Puntoni, Rebecca Walker Reczek, Markus Giesler and Simona Botti

KEYWORDS

Artificial Intelligence (AI), Marketing Technology, Data Capture, Data Classification, Surveillance, Algorithmic Biases

THE AUTHORS

Stefano Puntoni
Professor of Marketing, Rotterdam School of Management, Erasmus University, Rotterdam, The Netherlands
spuntoni@rsm.nl

Rebecca Walker Reczek
Berry Chair of New Technologies in Marketing, Ohio State University, Columbus, USA
reczek.3@osu.edu

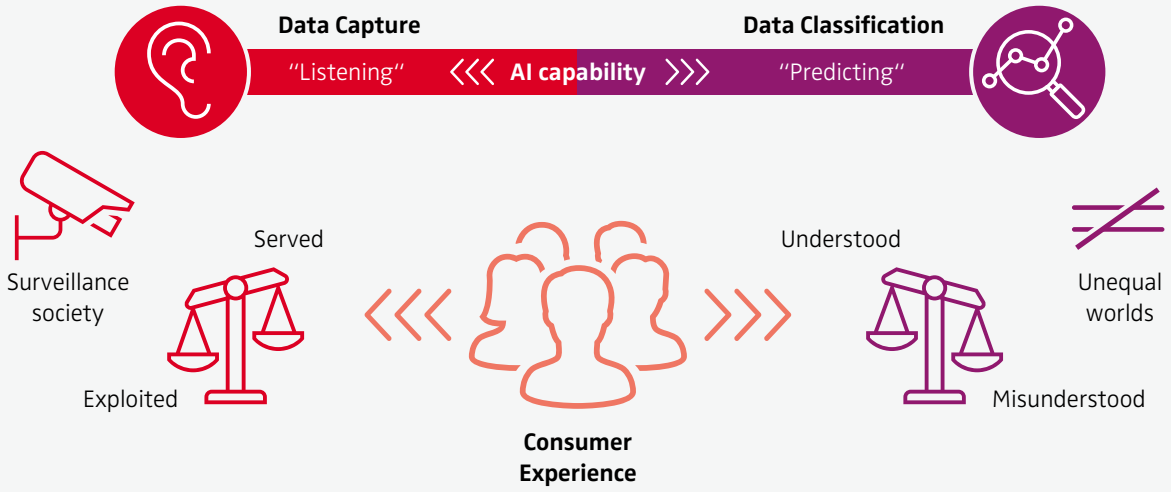
Markus Giesler
Professor of Marketing, York University, Toronto, Canada
mgiesler@schulich.yorku.ca

Simona Botti
Professor of Marketing, London Business School, UK
sbotti@london.edu

The pervasiveness of technology in everyday life ⨯ Many consumers have diverse interactions with AI (artificial intelligence)-powered marketing technology throughout the day, from Amazon's smart speaker Echo to Google Photo's editing suggestions and Spotify's music playlists or Netflix's movie recommendations. The growing ubiquity of AI in consumers' lives can be very convenient, but even if software developers and marketers strive to create excellent service, consumer experiences are not always positive. For example, computer scientists often characterize algorithms as neutral and efficient tools, but some consumers doubt their accuracy, citing stories about algorithmic discrimination and misjudgment. It seems that companies may overlook the social and individual complexities of the contexts in which marketing technology is increasingly deployed. Thus, whereas AI can improve consumers' experiences in concrete and relevant ways, a failure to incorporate behavioral insight into technological developments may undermine the value that consumers perceive from AI interactions. We discuss consumers' positive and negative experiences around AI's ability to listen to consumers and predict their behavior.

The capability of AI to listen and predict ⨯ Marketing technology typically comprises data capture and data collection and uses AI capabilities to "listen" to consumers and algorithms to predict consumer behavior (see Figure 1). Consumers experience both capabilities during their customer journeys. "Data capture" is the experience of giving one's data to AI; "classification" is the experience of receiving AI's

FIGURE 1 > AI's key tasks and capabilities in marketing technologies and how they can be perceived by consumers



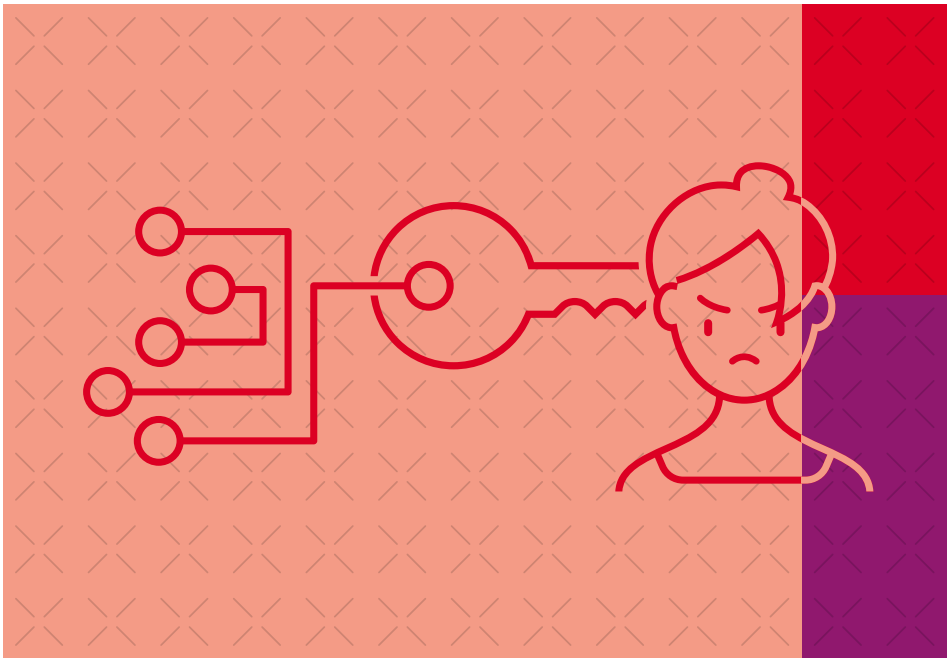
personalized predictions. Both experiences can be emotional, cognitive, behavioral, sensorial and social, and consumers may either feel served or exploited. When consumers are classified by the collected data and receive customized offers, they may feel understood or misunderstood. For both experiences we explore benefits and costs from a consumer perspective and derive managerial implications to enhance the positive side of these experiences.

The two sides of the data capture experience The "listening" capability enables AI systems to collect data about consumers. Even if data is intentionally provided, consumers do not always understand who uses the data and how. But data is also obtained unnoticed from traces of daily activities, as in the case of shopping in a store equipped with facial recognition technology or of an iRobot Roomba mapping a home. In such cases, consumers might be unaware that they are sharing data.

AI "listening" benefits consumers because it can make them feel served: The provision of personal data allows consumers to access customized services, information and entertainment, often for free. For example, consumers who install the Google Photos app let Google capture their memories and, in return, get an AI-powered assistant that suggests context-sensitive actions when viewing photos. Access to customized services also implies that consumers can enjoy the outcome of decisions made by digital assistants, which effectively match personal preferences with available options without the cognitive and affective effort that decision-making can entail.

Despite providing convenience, however, AI "listening" can also make consumers feel exploited. They may perceive a loss of personal control and feel demotivated and helpless. Privacy is another concern, and privacy invasion or potential violation can threaten careers. In contexts of domestic violence or for political activists, it is not only frightening, but may become a matter of life and death or result in the victim being jailed.

Moreover, data acquisition is increasingly intrusive and difficult to avoid. Stories such as George Orwell's 1984 or Philip K. Dick's Minority Report envision systems of oppression, and such dystopian imagination further fuels the threatening nature of data capture's so-called data capitalism.



Despite providing convenience, AI "listening" can also make consumers feel exploited.

The two sides of the data classification experience

Companies use data collected by AI to predict consumer interest and behavior, and, assisted by AI, they attempt to create ultra-customized offerings and maximize engagement, relevance and satisfaction. Consumers may infer that these recommendations are based on being classified as a certain type of person. Classification experiences can be positive when they lead consumers to feel deeply understood. For example, consumer categorizations can be flattering when personalized offers indicate membership in an aspirational group.

However, classification experiences may also make consumers feel misunderstood when they perceive AI as having inaccurately assigned them to a certain group and they receive biased predictions. Group identity appeals may backfire when they do not sufficiently reflect a consumer's individuality or are perceived as dated or wrong. Frustration increases when it is impossible to alter a classification that feels wrong, like in the case of Spotify customers who kept receiving rock recommendations despite their musical taste having evolved over time, and who had no chance to alter them.

Consumers may also feel misunderstood when they fear AI is using a social category in a discriminatory way to make biased predictions about them. This is particularly problematic when these predictions enhance consumers' vulnerability because the predictions restrict access to marketplace resources such as loans or credit cards. For example, fintech companies increasingly use easily accessible digital information to predict consumers' payment behavior and judge their creditworthiness. At the societal level, classification by AI is linked to a dystopian narrative in which access to resources and freedom is restricted for some groups.

How organizations can reduce consumers' fears of being exploited and misunderstood ⤫ Rather than ignoring tensions between the benefits and costs of marketing technology, companies should pay attention to harmful experiences to maximize the benefits. We suggest that companies enhance their organizational learning about consumer anxiety and take concrete steps such as the ones we suggest here to design improved experiences around data collection and classification.

› **Strive toward greater organizational sensitivity around consumer privacy** ⤫ Consumers feel they have substantially less control over personal data than organizations that capture it. Companies should therefore listen empathetically and at scale to consumers' feelings about this situation and especially to those who feel exploited by data capture. Furthermore, rather than accepting the surveillance society narrative at face value, companies should explore when, how and whether their own data capture activities play into or counteract this narrative.

  Managers should also listen to consumers who feel wrongly or too narrowly classified. They could experiment with diversifying and broadening the content they provide and also develop formats to propose products that are dissimilar from the user's preference profile. Indeed, Spotify has launched Taste Breakers, a function that introduces customers to music to which they normally do not listen. Similar attempts at ''bursting the bubble'' are important, as AI that provides information based on past choices ignores individual long-term goals, does not reflect short-term behaviors and increases attitude extremity and polarization. To reduce potential frustration, companies could also address feelings of being misunderstood by asking consumers to validate AI-based inferences and by offering the opportunity to update the AI's view of themselves.

› **Design choice architecture and default options carefully** ⤫ Recent regulations, such as the European Union's GDPR (General Data Protection Regulation), aim to limit exploitation. They make organizations responsible for giving consumers the possibility to opt in and out of specific data collection processes like cookies and require greater clarity on how to use the data.

  However, as AI becomes more pervasive and ubiquitous, consumers are often overwhelmed by an overload of choice options and information along the customer journey and become even more anxious. Therefore, the way in which data capture options are presented – the choice architecture and the default settings – plays a key role. Default settings have proven especially effective in facilitating decision-making as well as influencing specific behaviors, since individuals tend to passively accept defaults instead of exercising their right to opt out. To account for heterogeneous preferences, choice architects should attempt to personalize defaults, and AI itself could assist consumers in the automatic implementation of preferences about how their data is captured and analyzed.

» *Rather than ignoring tensions between the benefits and costs of marketing technology, companies should pay attention to harmful experiences to maximize the benefits.* «

»Attempts at "bursting the bubble" are important as AI provides information based on past choices and ignores individual long-term goals or short-term behaviors.«

› **Test for algorithmic biases and eliminate them** While data capture errors are often noticed with delay and are hard to correct in real-time, classification errors produce signals soon after they occur, and marketing and consumer-facing departments are challenged to detect them. For instance, if an AI system has rejected a college applicant due to a biased algorithm, it is likely to surface in the college's admissions department, and this decision might even be used in assessing the next round of applications. However, college admissions managers might assume that the classification represents the natural outcome of the competitive process and may not immediately be aware that a given outcome results from a socially or racially biased algorithm. Organizations must thus focus on learning about the specific biases present in their algorithms and processes to root them out. In the United States, the Algorithmic Accountability Act of 2022 requires companies to assess whether AI systems lead to inaccurate, unfair, biased or discriminatory decisions and to address any problems. However, rather than reacting to a changing regulatory landscape, companies should proactively collaborate with technology experts and thought leaders in computer science, sociology and psychology to develop and conduct such audits. Organizations should also diversify their hiring to include more members of social minority groups and ensure that their culture and processes represent diverse viewpoints at all stages of the design of AI classification experiences.

Addressing consumers' problems with marketing technology is important for society as a whole AI-enabled marketing technology promises to make consumers happier and more efficient. To live up to this promise, managers should pay attention to consumers' anxieties. If they understand when and why consumers feel exploited or misinterpreted by AI, companies can provide more value for consumers individually. But learning about and acting upon negative AI experiences is also relevant on a broader level. Companies will be able to design both de-biased and anti-bias AI experiences that foster an inclusive society rather than perpetuate inequality. Companies should share both their audit processes and outcomes, such as by engaging in lobbying efforts, to ensure that regulations passed in the name of consumer welfare include meaningful and technologically appropriate provisions to protect consumers from exploitation and discrimination.

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The scalability of sales automation is dependent on a company's capacity to create and operate use cases.

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Building a Revenue Engine – Scaling Up Sales Automation

Emma Storbacka and Kaj Storbacka

KEYWORDS
Sales Automation, Use Case Centricity, Scaling Digitalization

THE AUTHORS
Emma Storbacka
CEO, Avaus Ltd., Stockholm, Sweden
emma.storbacka@avaus.com

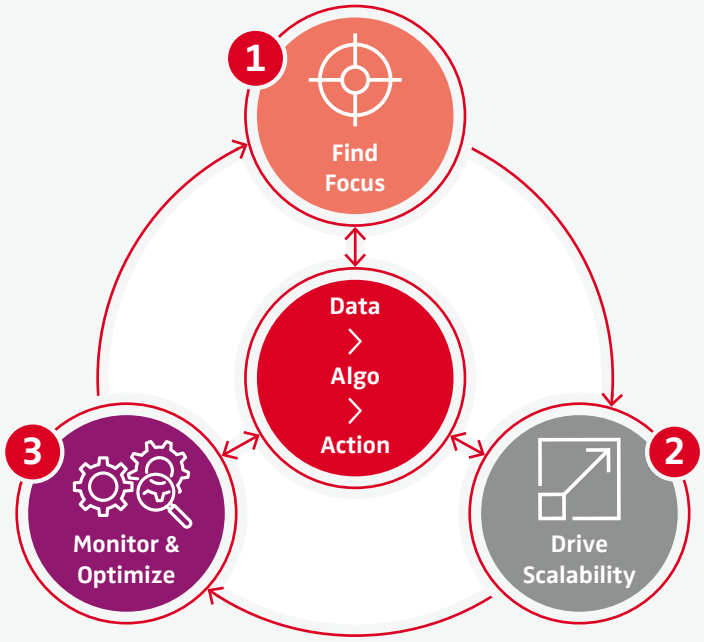
Kaj Storbacka
Hanken Foundation Professor, Hanken School of Economics, Helsinki, Finland
kaj.storbacka@hanken.fi

Sales automation could be a Ferrari, but it seems stuck in the garage ⤫ Digitalization of buying behavior has accelerated during the COVID-19 pandemic. Data and artificial intelligence (AI) technologies have promised to unlock business potential by enabling companies to personalize their customer encounters, serve customers more efficiently and improve process efficiency. But despite widespread adoption of digital technologies such as CRM systems, e-commerce platforms, marketing automation and various digital marketing channels, there seems to be a tendency to not reach the targeted business performance improvements – the proverbial Ferrari often seems to be stuck in the garage. We analyze why we are not seeing more evidence of the business benefits of marketing and sales automation and suggest a use-case-centric ''revenue engine'' that helps companies automate sales and marketing at scale with a higher success rate.

A platform-centric approach has limited success ⤫ We observe that the mere adoption of digital platforms, such as Salesforce, Adobe or Hubspot, is not the key to success. Many companies focus too much on available platform technologies and platform architecture. However, what sets winners and losers apart is the ability to automate at scale. For companies not systematically scaling up the utilization of data and automation, the outcome may even be the opposite. With increasing investments in a multitude of digital channels and platforms, and the organizations to run them, the net impact of increasing levels of ''digitalization'' may lead to a negative impact on their financial performance.

A shift in mindset toward a use-case-centric logic is needed ⤫ Successful companies focus on building a revenue engine, i.e., a methodology and process for putting the acquired data and automation capabilities to work – resulting in scaled impact and a flat, or even declining, cost base.

FIGURE 1 › The revenue engine framework



To scale, companies need to stop structuring their digital transformation initiatives via the platforms they are implementing and start using a use-case-centric lens. The "use case" concept, which has its background in software engineering, generally describes the intended business application of a given technology. In a use-case-centric logic, business priorities and applications are the starting point. Use cases leverage the available data through automation and use digital platforms as supporting tools to drive specified business objectives.

The revenue engine ⤫ The revenue engine framework depicted in Figure 1 forms a basis to successfully use extant resources to scale sales automation. The framework has two main components: a data-driven methodology and a managerial process.

› **The core: The Data › Algo › Action methodology** ⤫ The scalability of sales automation is dependent on a company's capacity to create and operate use cases. Automation implies the use of algorithms and technologies to translate data into action. Most companies have an abundance of potential use cases for improving sales performance. Effective use cases utilize both transaction data of past purchases and services used by a given customer, as well as behavioral data like web browsing behavior that displays more of a customer's buying intent.

Table 1 illustrates with two sales-related use cases which data is used, which algorithms are applied and which action follows. The B2B retailer in the electronics industry, for instance, combined data to predict which products a customer is most likely to add to their order at checkout and personalized both the website experience as well as subsequent email messaging with the same recommendation. Additionally, key account managers get recommendations on what to suggest to their customers in the CRM system.

Business benefits and customer value can be created across multiple domains in a business. For instance, the Scandinavian telecom provider in Table 1 automated parts of the sales process and was able to increase pipeline generation, decrease the cost of sales and improve the customer experience.

› **A managerial process for scaling** ⤫ The Data › Algo › Action methodology can be viewed as the axis around which companies build a managerial process to scale up sales automation. The process has three steps: first, finding focus for the efforts by identifying key value

TABLE 1 › Examples of use cases for sales automation

		Structured (tables of facts) or unstructured (text, images, voice) information available or obtainable as input for decision-making.	Algorithms that use data to predict an outcome: from simple rules-based models to sophisticated AI or machine learning models.	The automated action in any channel where data can be used to inform or trigger actions.
Use Case Examples	**B2B Retailer** Product recommendations on a website	› Purchase history › Browsing patterns of previous customers	Purchase propensity calculated for all products in the product catalog	The products with the highest purchase propensity are served up in the "recommended products for you" section of the website. A "product recommendations" section in the email uses the same algorithm outputs to personalize the email. The CRM tool uses the same recommendation scores to help field sales reps suggest the most likely product for a customer.
	B2B Telecom Automated cross-selling	› Purchase history › Current service contract type › Firmographics (revenue, growth, industry) › Digital interactions in email and web › Results from outreach in campaign	Propensity to buy next service/product	The customers with medium likelihood to buy a second contract type are added to "warm-up campaigns" triggered in email and social media. The customers with high likelihood to buy a second contract type are sent to the telemarketing team for qualification and booking of meetings with sales reps.

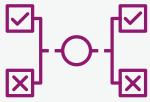
drivers; second, driving scalability by continuous learning and standardization; and third, monitoring and further optimizing the business outcomes of the applied use case. These steps need to be continuously connected to the core and form an ongoing process: The monitored outcomes influence which value drivers to focus on and how to scale up in the future.

› **Find focus by identifying value drivers** × Scaling efforts should focus on key value drivers. Use cases with a large value potential and high urgency should be prioritized. To assess the value potential, top-line effects and bottom-line impact as well as indirect strategic benefits should be considered. Based on the assessment of the value drivers, management must define which parts of the customer journey or lifecycle should be addressed and in which channels the use cases should be activated.

While an individual use case seems simple, implementing only a few is hardly enough to shift the needle on the topline. To achieve a significant impact on the desired business KPIs, companies must establish a target state that is clear and forces the management to soberly assess the effort required to reach the target automation level within the desired timeline. Describing the target state via a ballpark target automation level is a sound method to align expectations, while also planning and resourcing the work to get to the desired state.

TABLE 2 › Monitoring scaling up efficiency





	Examples of		
	Top-line impact	**Bottom-line impact**	**Indirect strategic impact**
Leading indicators	› Attributed sales › Revenue impact per use case	› Automation level: number of use cases automated › Sophistication of algorithms › Scale at which activations are in place across channels, geographies, business areas	› Ability to attract and retain talent › Development effort per use-case in person-days or hours
Lagging indicators	› Total sales, revenue, pipeline › Customer satisfaction	› ROI on data and technology investments › Cost of sales (including both sales, marketing, and IT-/data-related running costs)	› Applicability of "revenue engine" in new markets or business lines › Generation of valuable (monetizable) data assets

› **Drive scalability and standardization** ✕ The main risk with a use-case-based approach relates to increased "divergence." Divergence holds many connotations, but in the context of use-case-centric sales automation development, it signals uncontrolled variation in internal processes. This kind of uncontrolled divergence occurs when companies do not learn, document and standardize the executed Data › Algo › Action use cases. The outcome may thus create an ad hoc mentality in which processes are neither harmonized nor consistent, but always unique because they are singular to the persons or teams carrying them out.

To ensure scalability, processes need to be replicable across markets and/or business areas. Individual use cases should include cross-functional planning, prioritizing and sign-off processes. Everything that can be automated should be automated, and whatever cannot be automated should be standardized.

Rigid documentation practices reduce people's dependencies and allow for leveraging cost-efficient resourcing alternatives for maintenance and low value-add tasks. Batching and codification of similar use cases and tasks create smarter resource allocation and scalability when developing the underlying technical capabilities.

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Use cases with a large value potential and high urgency should be prioritized.

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To ensure scalability, processes need to be replicable across markets and business areas.

While using scalable architectures and tools for data management, algorithm development and orchestration of automation is critical, as several use cases will use the same data, and the same algorithms or variants thereof will be activated in several channels and use cases.

› **Monitor outcomes and optimize processes** ✕ To keep the desired outcomes in mind and support a process of continuous learning related to scaling up, the data-driven sales and marketing company needs a rigid monitoring setup. The monitoring needs to support multiple viewpoints (see Table 2). First and foremost, to secure continuous support for the sales automation efforts, sales leaders need to show direct top-line and/or bottom-line outcomes. Simultaneously, to enable the longer-term scaling efforts, indirect strategically important indicators, such as improvements in overall skillsets, should also be followed up.

To support the agile adaption to changing circumstance in the business environment, the outcomes should not be measured only with lagging indicators. Leading indicators, such as improved sophistication of the used algorithms and the sales attributed to selected use cases, need to be monitored. A robust monitoring approach gives the sales leader the tools needed for "tweaking" the revenue engine to improve both the short-term and the long-term outcomes of sales automation.

Starting the revenue engine and keeping it running ✕ As it challenges existent practices in most companies, implementing the above-described methodology and process will require leadership skills. At the start, managers need to understand the effort required to reach the target automation level. To keep the engine running, marketing and sales need to improve their data literacy.

› **Do not underestimate the efforts needed** ✕ In our experience, planning, creating and implementing a use case of average complexity from start to finish typically takes 10 to 15 person-days to execute, but up to 100 person-days are not uncommon if there is no systematic methodology in place.

The Scandinavian telecom company from Table 1 had severely underestimated the effort required to scale up a personalization effort by a factor of six to eight, because implementing each use case took much more time, and more use cases were necessary to cover enough customer interaction channels, products and contexts.

› **Ensure both skill and will across marketing and sales** ✕ Scaling up requires that marketing and sales development is carefully coordinated. Digital marketing extends into what is traditionally selling territory, and digital selling teams similarly move upstream into what was regarded as marketing's turf.

Another challenge that companies face relates to low data literacy. Both marketing and sales leaders must consider the need to "let go" and outsource decisions to algorithms: which customers to approach, what and when to sell and in which channels. A use-case-centric lens and the revenue engine framework create a common language, allowing both marketing and sales to become "literate" in the data domain.

Keeping these issues in mind, scaling up sales automation with the revenue engine improves the ROI of data and technology investments. The developed technical and managerial capabilities can also be applied in other domains, including generating customer and market insights, business intelligence and reporting in general. So, dust off your Ferrari, open the garage door and start driving! ✕

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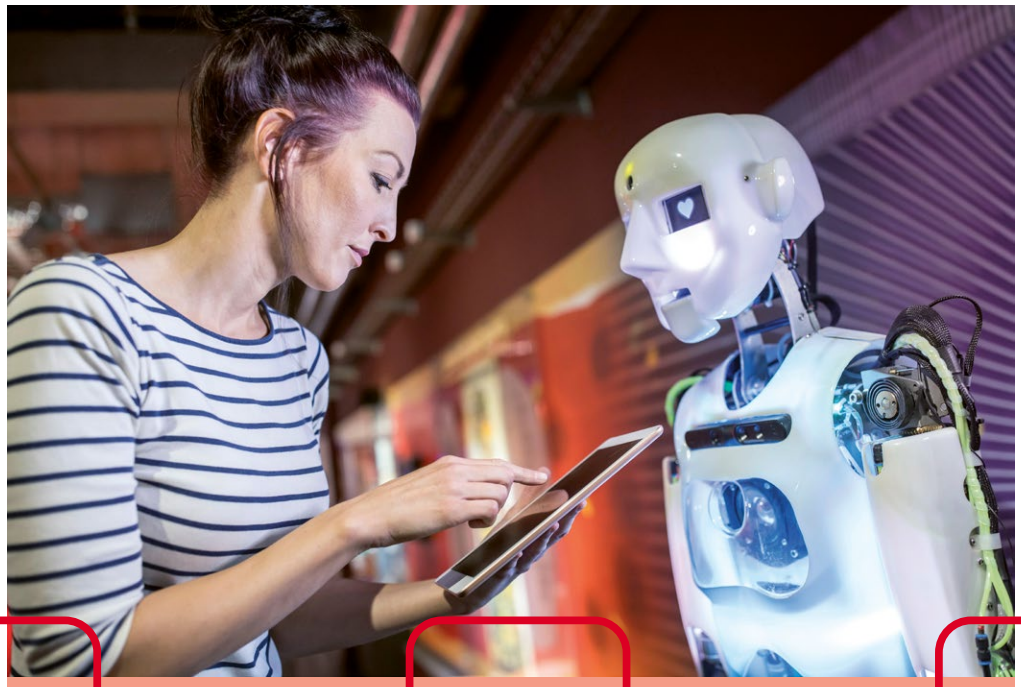
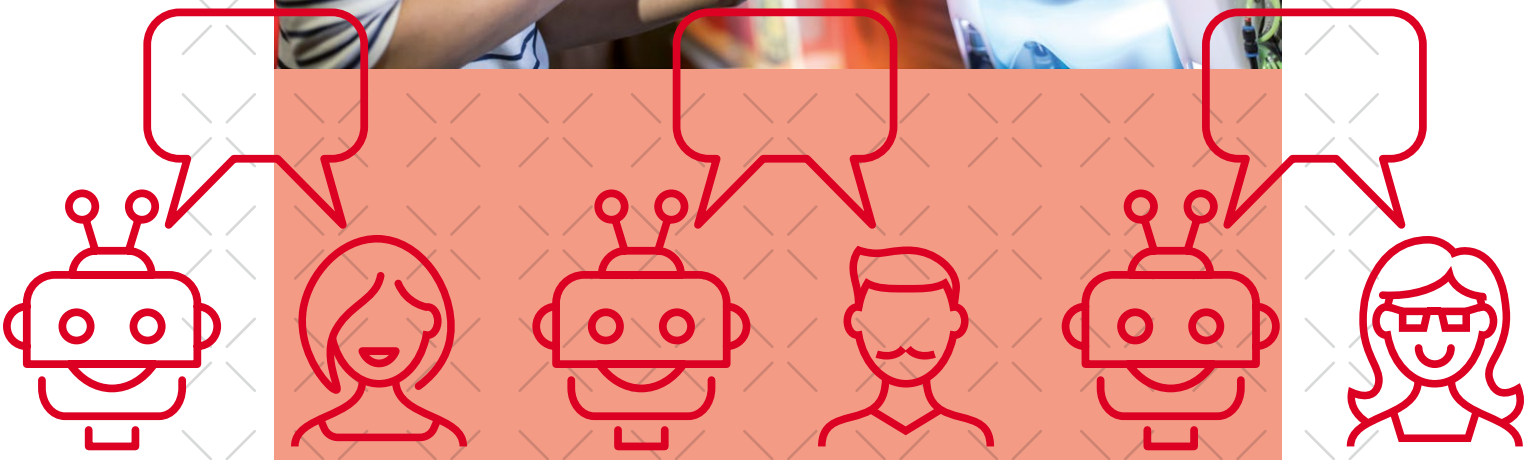




Hybrid human-robot teams and collaboration will be the future service model for complex service contexts.

The Robot and I: The Rise of Hybrid Service Teams

Jochen Wirtz, Stefanie Paluch and Werner Kunz

KEYWORDS
AI, Robotic Process Automation (RPA), Service Automation, Service Robots, Hybrid Service Teams

THE AUTHORS
Jochen Wirtz
Professor of Marketing, National University of Singapore
jochen@nus.edu.sg

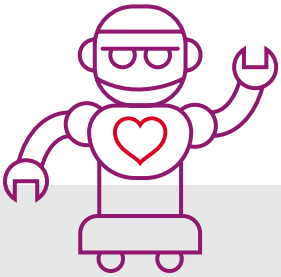
Stefanie Paluch
Professor of Services and Technology Marketing, RWTH Aachen University, Germany

Werner H. Kunz
Professor of Marketing, University of Massachusetts Boston, USA

The service revolution has started ⤫ Our economies seem to be facing a turning point in the service sector. Technologies are rapidly becoming smarter and more powerful, and at the same time, they are getting smaller, lighter and cheaper. These include hardware, such as physical robots, drones and wearable technologies, and code and software such as for analytics, speech processing, image processing, virtual and augmented reality, cloud technologies, mobile technologies, geotagging, robotic process automation (RPA), low-code platforms and machine learning. Together, these technologies will transform virtually all service sectors. Combined with these technologies, service robots and artificial intelligence (AI) will lead to rapid innovation that can dramatically improve the customer experience, service quality and productivity all at the same time.

The incremental costs of robots are close to zero ⤫ Robot- and AI-delivered service offers unprecedented economies of scale and scope, as the bulk of the costs are incurred in their development. Physical robots cost a fraction of adding headcount, and virtual robots scale at close to zero incremental costs. Such dramatic scalability applies to chatbots and "visible" robots such as holograms. For example, an airport could install a hologram-based humanoid service robot every 50 meters to assist passengers and deal with common questions like arrival information and directions to check-in counters in all common languages. These holograms only require low-cost hardware like a camera, microphone, speaker and projector and do not need to take up floor space: Travelers could even push their baggage carts through a hologram when it gets crowded.

Different qualities of service robots and human frontline employees ⤫ As the relative strengths of humans and robotic services differ, they are best deployed in different contexts (see Figure 1). It is difficult for robots to deal with



BOX 1

Existing applications of service robots

› **Hotels** introduce humanoid robots in their lobbies where they welcome guests, provide information and entertain guests. Connie, for instance, is the robot concierge used in some Hilton hotels. The robot was developed by IBM using their Watson AI platform and can interact with guests and respond to their questions. Connie has speech recognition capabilities and learns and adapts with each interaction, improving its answers.
The EMC2 hotel in Chicago lists their robotic attendants Leo and Cleo among the hotel's amenities. Waist-high and dressed with coattails, they can fulfill guests' diverse needs by delivering an extra towel, a snack, a toothbrush and more.

› At **airports**, robots are used to scan boarding passes and help passengers find the right departure gate. Self-moving check-in kiosk robots detect busy areas and autonomously help passengers reduce waiting time. Kansai airport in Japan uses two security robots that autonomously navigate and patrol routes to detect any security breaches and give an alert. They use laser sensors to move around and capture images with built-in cameras.

› **COVID-19** has increased the demand for medical service robots that check peoples' temperature and take over disinfection work. Some Japanese airports have deployed robotic PCR testing systems to assist with the COVID-19 protocol. Systems were able to complete rapid testing within 80 minutes and process up to 2,500 passenger samples in 16 hours. The use of robots decreased infection risk around the airports and reduced contact between passengers and security personnel.

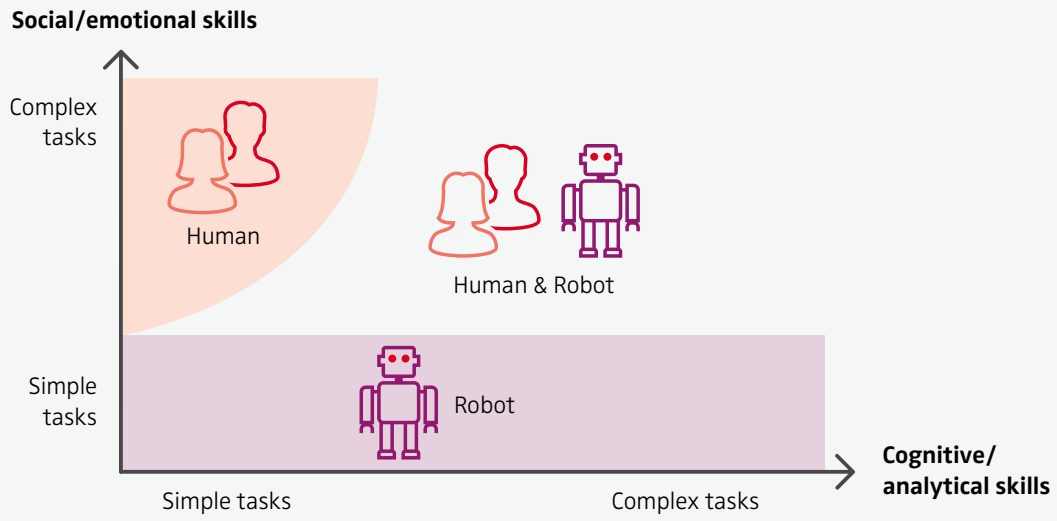
› At the **Winter Olympics** in Beijing, a fully automated canteen cared for the athletes and staff. Meals were prepared by robot cooks and then fully automatically steered to the guests' tables, where drones airdropped them. Even the bartender mixing drinks was a robot.

emotions that go beyond a pleasant display of surface demeanor. Especially complex and emotionally demanding tasks are still better handled by service employees, as they can bring genuine emotions such as excitement and joy or empathy and compassion to the service encounter. For example, humans can respond better to the individual context and show understanding in complaint and service recovery situations.

On the other hand, service robots can deliver services effectively that require high cognitive and analytical skills, such as in financial services settings. For example, service robots can analyze large volumes of data, integrate internal and external information, recognize patterns and relate these to customer profiles. Within minutes, these robots can propose best-fitting solutions and make recommendations. Figure 1 shows how humans and robots are best deployed in service settings.

The charm of hybrid service teams Human-robot teams will increasingly deliver tasks requiring high cognitive and emotional skills. Text and voice-based conversational agents increasingly handle routine customer interactions. Even when interacting with a human service employee, AI may support that employee. When calls become complex, they are prescreened, preprocessed and escalated to a human agent. The outcome is that customer contact staff do not have to deal with high volumes of trivial customer requests but instead spend their time on higher-value and higher-level tasks. For example, a chatbot for the NUS MBA Program handled 20,000 unique conversations per month right after launch and answered routine questions like "Do I need a GMAT?," "What scholarships are available?" or "When is the application deadline?" The admission team can now focus on top-quality candidates and on more tricky and complex discussions.

FIGURE 1 > The service robot deployment model



(adapted from Wirtz et al., 2018)

As the relative strengths of humans and robotic services differ, they are best deployed in different contexts.

In a healthcare context, for example, service robots will do the analytical work like analyzing symptoms and comparing them with databases to identify possible diagnoses, and humans will make the final recommendations and decisions and take over the social and emotional tasks like advising and persuading patients. For example, the first author's daughter returned from Singapore to Munich with dengue fever; the symptoms only showed a week after her return. General practitioners in Germany may never see a dengue fever patient in their professional life and may not be effective in diagnosing it. On the other hand, a service robot can easily compare patient data and symptoms and provide a "hit list" of possible diseases with a fit index. The general practitioners can then work down the list and discuss it with the patient to identify the most likely diagnosis and test for it. In our case, they would check if the patient had been in the tropics during the past few weeks. Figure 2 gives an overview of the different qualities of humans vs. robots in service settings and how companies can combine them to gain competitive advantages.

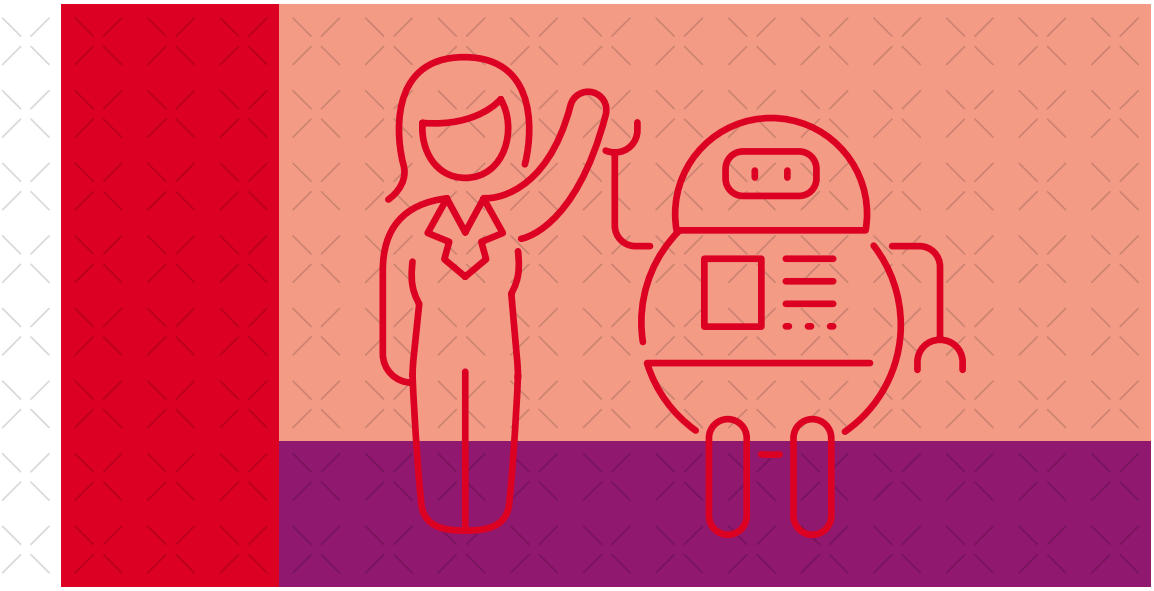
Implications for service companies We predict that hybrid human-robot teams and collaboration will be the future service model for many more complex service contexts. These hybrid teams will realize productivity and service quality gains for the company by combining the advantages of AI and human employees. Robots' enormous knowledge and data are undeniable advantages for creating customized services. Organizations should focus on implementing, managing and fine-tuning the deployment of robot-employee-customer co-creation teams to ensure and constantly increase the quality of their customer interactions. The following recommendations refer to the most pressing topics for service companies to tackle.

FIGURE 2 › Developing a competitive edge by combining the advantages of AI and human employees

Service Employees		Service Robots
› Act as individuals, individual learning › Need training › Limited memory and access	**Training and Learning**	› Act as part of systems, are connected, system learning › Upgradable, system-wide › Virtually endless memory and access
› High incremental cost › Low economies of scale and scope	**Cost**	› Low incremental cost › High economies of scale and scope
› Heterogeneous output › Customization and personalization depend on employee skill and effort › Unintended biases › Have genuine emotions › Can engage in out-of-box thinking and creative problem solving	**Customer Experience**	› Homogenous output › Customization and personalization can be delivered on scale at consistent quality and performance › Potentially no biases › Can mimic emotions › Limited out-of-box thinking, have rule-bound limits
› Service employees can be a source of competitive advantage › Differentiation on service can be based on better hiring, selection, training, motivation, and organization of service employees	**Differentiation and Competitive Advantage**	› Service robots alone are unlikely to be a source of competitive advantage as solutions are likely to be supplied by third-party providers (very much like ATMs are sold to banks) › Economies of scale and scope, and related network and service platform effects can become important sources of competitive advantage
Hybrid service teams can leverage economies of scale and differentiation opportunities of humans to create unique, faster and more convenient service experiences.		

› **Restructure the service frontline** ⤫ When implementing service robots, companies will inevitably transform and dramatically reorganize. This reorganization requires strong leadership and support, and employees' willingness and ability to change. Employees will be assigned to new tasks and responsibilities and need to develop skills like RPA, basic programming and technology troubleshooting.

› **Consider service robots as a necessary investment** ⤫ The deployment of service robots comes with investments, including acquisition, integration, development and maintenance costs, development of necessary IT and AI specialists and programmers and building virtual networks and maintenance of systems. It may take time for these investments to be recouped. According to our expe-



rience, however, often less than 12 months are required for payback of projects in successful implementations.

› **Mitigate potential risks of robot deployment** ✕ Organizations need to mitigate potential anxieties related to customer-facing service robots such as algorithm aversion, perceived loss of the human touch and consumer privacy. That mitigation requires that organizations embrace corporate digital responsibility (CDR) and develop a set of shared values, norms and actionable guidelines on the responsible use of technology and associated data, such as regarding how data is to be captured, used and retired and how data-related decisions are reached. Specific decisions that managers need to make include whether, for instance, biometrics or data from social media accounts will be collected, whether variables will be used to build indices or financial scores to support decision-making, such as for approving loans and setting interest rates and when the information will be deleted from the company's database, e.g., on a bounced payment.

AI offers great opportunities for cost-effective service excellence ✕ In summary, service robots and AI will transform the service sector and bring unprecedented improvements to the customer experience, service quality and productivity all at the same time. As such, this service revolution has the potential to increase our standard of living as much as the industrial revolution did by improving manufactured goods. This time, however, it is financial, logistics, healthcare and education services that are being radically transformed. ✕

↓

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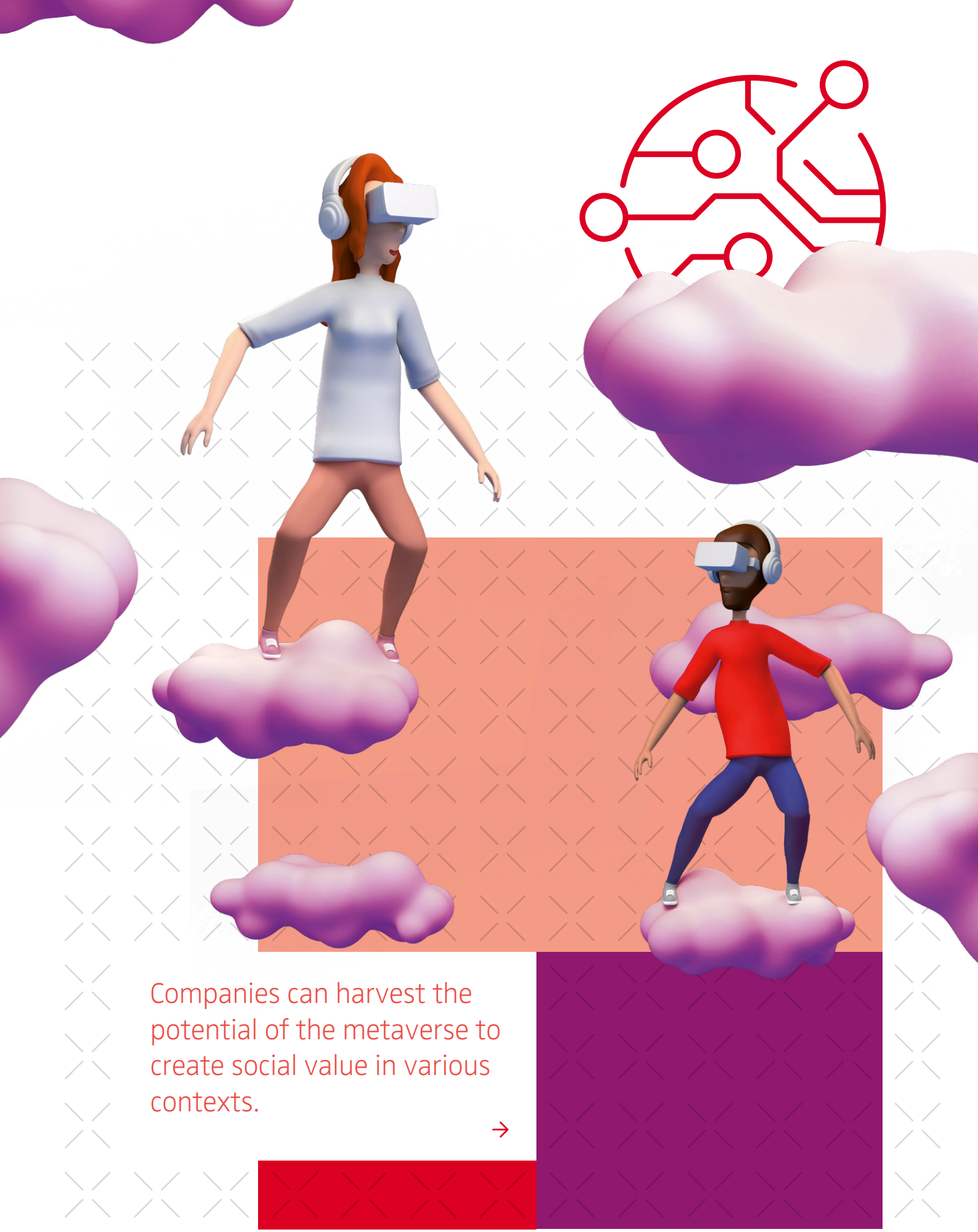

Companies can harvest the potential of the metaverse to create social value in various contexts.

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Metaverse Marketing

Thorsten Hennig-Thurau and Björn Ognibeni

KEYWORDS
Metaverse, Virtual Reality, Virtual Worlds, Social Behavior

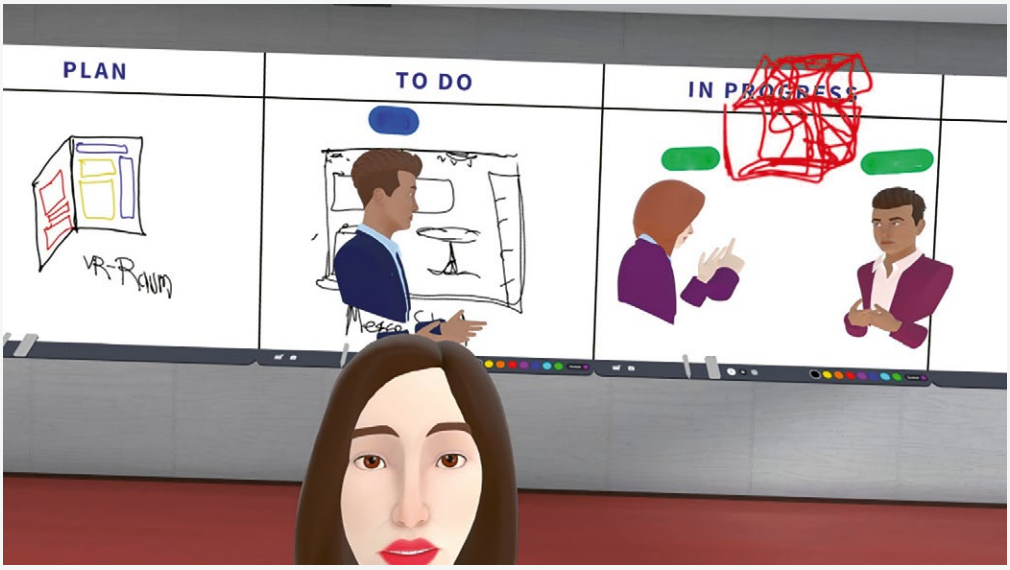
AUTHORS
Thorsten Hennig-Thurau
Professor of Marketing & Media Research and Academic Director of XRLab@MCM, University of Münster, Germany
thorsten@hennig-thurau.de

Björn Ognibeni
Co-founder of ChinaBriefs.io and Strategic Director of XRLab@MCM, University of Münster, Germany
bjoern@ognibeni.de

The metaverse: From science fiction to reality ⨯ Thirty years after science fiction writer Neal Stephenson introduced the concept of a ''metaverse'' to the world, his invention is now challenging managers globally. Ever since Mark Zuckerberg told the world that his Facebook will shift from being a social media company to a ''metaverse company'' and subsequently renamed his firm to ''Meta,'' the business world has been wondering about the new phenomenon and its implications. Reactions range from denial of the metaverse (didn't virtual world Second Life already fail 20 years ago?) to limitless hype and billions spent for virtual land and NFTs, alias ''non-fungible tokens.'' At its core, the metaverse constitutes a computer-mediated environment in which people engage in social activities with others via avatars in virtual, 360-degrees ''worlds.'' It is this social nature, the ''doing things together,'' from which it derives its value. This sets the metaverse apart, not only from virtual reality fitness apps, but also from shooter games like Call of Duty, as we do not count killing the ''enemy'' in a virtual game as social activity. It is not because of its battles royale but the social gatherings and events it hosts that Fortnite should be considered a metaverse. Let us add that the term metaverse, in its singular form, is somewhat misleading. While multiple ''micro'' metaverses like Meta's Horizon and Fortnite, but also Microsoft-owned Altspace already exist, no overarching ''macro'' metaverse has evolved yet to connect them, and it is unclear whether it ever will. Just as with the mobile internet, we can expect a few dominant platforms to evolve, which will then provide access to many partly interlinked ''micro'' metaverses.

Virtual reality is not the only gateway to the metaverse, but a very particular one ⨯ Virtual reality (VR) technology is not a synonym for the metaverse but a technological gateway between the virtual and our physical world. It is

FIGURE 1 > A selfie made during a workshop in the metaverse app Glue



not the only one: While the Horizon metaverse from Meta is exclusive for VR users, other popular virtual worlds – not only Fortnite but also Roblox and Decentraland – are only accessible via computers and smartphones, and a third type of metaverses, including Altspace and VRChat, can be accessed in multiple ways. There are other ways than VR to access the metaverse, but many of the sensations and values it offers to users of today's high-fidelity standalone VR headsets such as Meta's Quest 2 VR are unique. In experiments with more than 300 business students, we consistently found differences in users' evaluations, emotions and behaviors across various tasks and activities between those who accessed virtual worlds via VR versus those who used a computer. The reason is that devices like the Quest 2 create unprecedented levels of spatial presence, or the perception of "being there," as well as the feeling of social presence, or the state of "being together" with others. Such social presence can be a source of enormous value: We only need to think about quality time with our friends!

But computers as gateways to the metaverse also have their right to exist in 2022: Entry barriers for VR metaverses are still quite considerable, with the costs and limited diffusion of headsets restricting social metaverse activities.

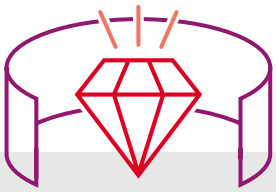
» *It is the social nature, the "doing things together," from which the metaverse derives its value.* «

FIGURE 2 › Münster students learning about the metaverse – in the metaverse

The true value of the metaverse is its social dimension ⨯ Certain activities you do alone in a virtual environment might be better than on the 2D internet. For instance, shopping in a virtual store can be more vivid than on a website. Other experiences, while somewhat less impressive, are substantially cheaper than in the physical world, like riding a rollercoaster in VR versus in a theme park. But the real value of the metaverse is neither of these things: It is the environment's social component. The 2D internet certainly has a lot of strengths, but it also carries one fundamental limitation: It is not designed for doing things together with others. Have you tried to shop at Amazon together with a friend when being at different places? Or to jointly watch a movie when being away via Apple's SharePlay? Doing so over the internet is a pale copycat of doing it together in the physical world. The metaverse, particularly when we experience it via virtual reality, is a distinctly different ballgame when it comes to hosting social behaviors than the 2D internet. Companies can harvest its potentials to create such social value in various contexts.

› **At work: employee-employee relations** ⨯ Several metaverses, such as Glue, a Finnish startup, and Raum from Germany, as well as Zuckerberg's Meta itself, provide virtual collaboration spaces for organizations. In atmospheric settings and equipped with various tools such as whiteboards, 3D pens and presentation screens, managers can meet in person via their avatars to solve challenges (see Figure 1). The integration of 3D models of any size facilitates employee training sessions. If done right, these uses combine the benefits associated with high spatial and social presence, like higher motivation, team culture and better solutions with substantial cost savings because of zero travel and opportunity costs for the equipment used.

› **When consuming: consumer-consumer relations** ⨯ Joint consumption is a multi-billion-dollar business, encompassing many fields of entertainment, such as movie watching, playing games, attending events, and shopping. While companies like Amazon have experimented with ways to facilitate joint consumption on the 2D internet with initiatives such as "watch parties," the metaverse aims to take a big bite of this joint consumption market. In virtual movie theater venues, apps such as BigScreen allow users to watch movies with up to 15 friends in a private theater. The metaverse already hosts virtual concerts by less known musicians as well as by superstars.



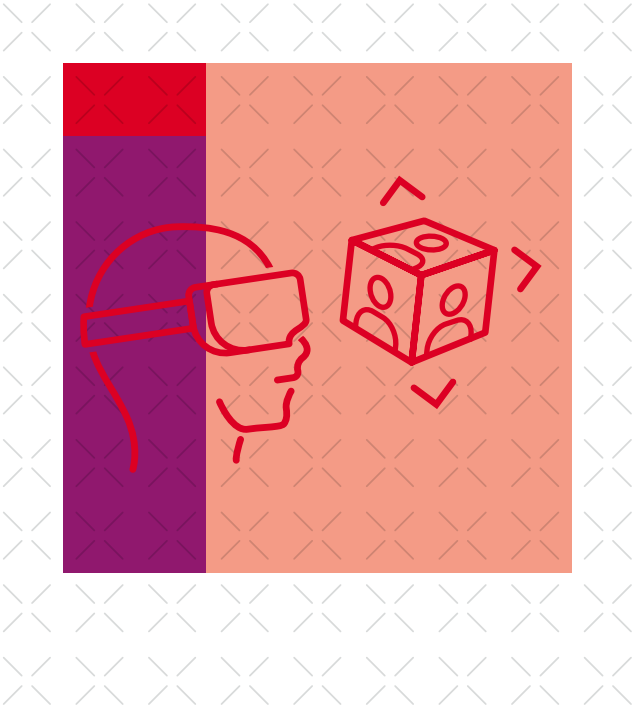
BOX 1

Key questions to find the best applications and to create value in the metaverse

› **At work**
Which teams are suffering most from a lack of social presence?
Which employees are most weary of video conferences?
Which meetings are the most expensive ones in terms of travel costs?
Which employees are most metaverse-prone?

› **When consuming**
Which of your offerings are valuable enough for consumers to spend their sparse time with friends?
Which products have sufficient "drawing power" so that a virtual shop would be a worthwhile travel destination for customers?
What other virtual venues can be metaverse attractions and have a high fit with our brand?

› **At the frontline**
Which services can be provided more effectively in virtual worlds?
Which customer segments are most excited about this new servicing channel?
Which products are destined to be presented in the metaverse?
Is there demand for virtual versions of our products?
(Global revenues for virtual goods are already $54 billion as of 2021!)



In April 2020, a concert by Travis Scott was "attended" by an audience of 12.3 million in the Fortnite metaverse. Opportunities for joint shopping sprees in the metaverse are still limited, though several global brands, including Adidas (in Sandbox), Nike (in Roblox) and the fast-fashion chain Forever 21 (in Decentraland) have made initial steps into the field, with some of them offering digital clothes for avatars in virtual stores. Others have taken more liberties when entering the joint-consumption metaverse, making use of the particularities of the environment: When Tampa's football stadium hosted the Super Bowl in 2021, mobile carrier and heavy sports sponsor Verizon provided the Fortnite users a virtual version of their "Verizon 5G Stadium." It has since then become a playground for users who race in it with virtual cars or ride hoverboards as a special kind of brand engagement – while the stadium's scoreboard airs Verizon ads.

› **At the frontline: employee-customer relations** ✕ A third kind of social interaction where the metaverse can offer value is when customers meet with service and

The metaverse provides ample opportunities for value creation beyond hyped quick wins such as trading ''virtual real estate'' and selling NFTs of digital artifacts.

sales personnel. Services can benefit strongly from the unique ''closeness'' of customers and employees in the metaverse: The positive atmosphere we experienced when hosting a marketing seminar with 13 Quest headset-equipped master students in Meta's Workrooms app is hard to imagine for Zoom lectures and even for physical ones (see Figure 2). The combination of perfect presence and an inspiring location overlooking some idyllic lakeside with VR's spatial audio feature, which allows the subtle verbal and also nonverbal reactions that define daily exchanges, makes quite a difference. Also, some business-to-business companies have started to make virtual showrooms a part of their sales efforts, giving customers a feel for the dimensions of their industrial machinery and, if the embedded 3D model allows, also a look inside – while travel costs are zero.

How to get started in the metaverse The metaverse provides ample opportunities for value creation beyond hyped quick wins such as trading ''virtual real estate'' and selling NFTs of digital artifacts. Those who want to create long-term value for their customers should not stop there but instead build on the metaverse's unique potential to shape social interactions. Let us note that this value potential is not limited to specific industries but can be unlocked by essentially any company and organization.

For each of the three contexts in which the metaverse can provide social value, Box 1 names some key questions that managers need to pay attention to when looking for a proper place for the metaverse in their marketing strategies and processes. In addition, here are some general guidelines for those who want to tap into the metaverse and create value for their customers.

- **Know the metaverse firsthand** Make sure to familiarize yourself with the metaverse to understand not only what it shares with the physical world but also what sets it apart. Understand how people think, feel and move in virtual worlds. You will learn that the role of ''location'' is quite different from the physical world, because people don't walk or take a cab in the metaverse: They teleport instead.

- **Start small and explore what works and what doesn't** You won't be overrun, as the metaverse will grow quickly but not exponentially. Explore different providers of metaverse apps for your business and test them. Find out where your customers are in the metaverse and in which app you see the best fit potential with your brand image. Be prepared for the fact that, as in physical retail, one store in one city probably won't suffice: Frictions for getting around are less in the virtual versus the physical world, but they are still substantial. For instance, don't expect Roblox users to enter Decentraland!

- **But don't wait until the metaverse is "complete" – it will never be** The barriers of entry will only grow over time, as the hugely different and yet largely unwritten laws of marketing in the metaverse will turn usage experiences into a massive competitive advantage. Remember that Amazon's dominating role today in online retail is based mainly on its multiyear advantage over those who entered the web much later. Begin to explore the metaverse now to become the next Amazon, not one of those who struggle to compete with it.

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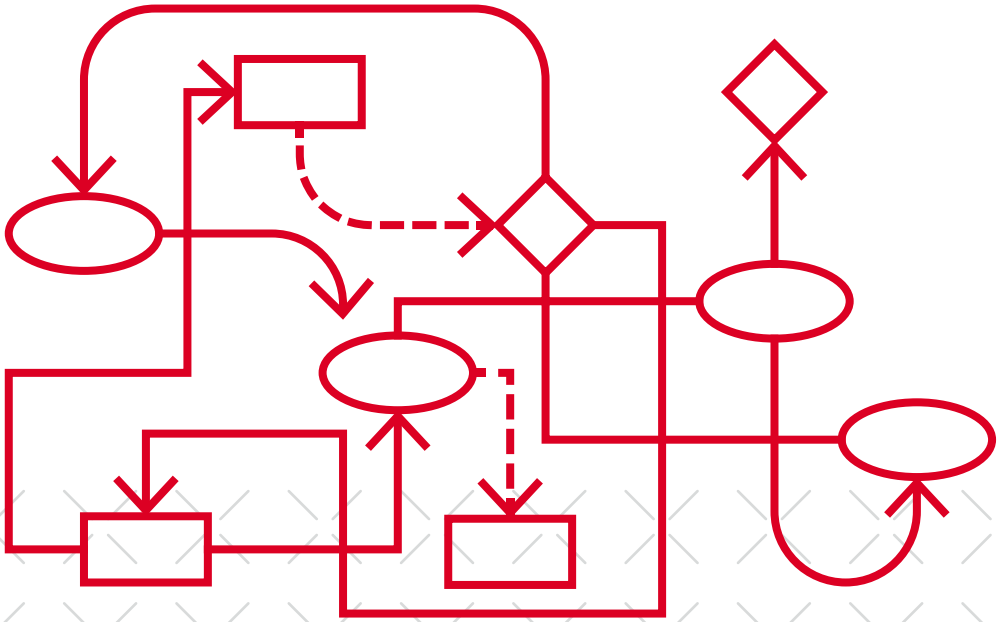
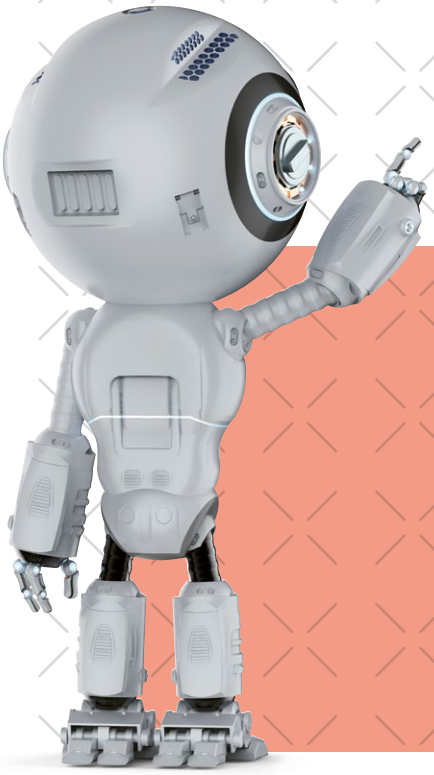




The boundaries of AI in decision-making are shifting from the operational to the strategic level.

The Next Frontier in Intelligent Augmentation: Human-Machine Collaboration in Strategic Marketing Decision-Making

Nina Hesel, Fabian Buder and Matthias Unfried

KEYWORDS

Human-Machine Collaboration, Artificial Intelligence (AI), Decision-Making, Marketing Strategy, Smart Machines

THE AUTHORS

Nina Hesel
Researcher Marketing Insights & Strategy
nina.hesel@nim.org

Fabian Buder
Head of Future & Trends
fabian.buder@nim.org

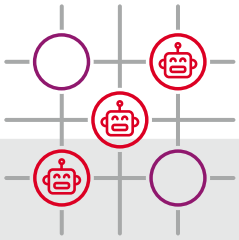
Matthias Unfried
Head of Behavioral Science
matthias.unfried@nim.org

All: Nuremberg Institute for Market Decisions, Nuremberg, Germany

Smart algorithms are taking over marketing decision-making Sending personalized newsletters with individual product recommendations and the right catchy headline at the right time of the day – no problem for the newest member of the marketing team, aka "artificial intelligence (AI)." On an operational level, many marketing decisions are already widely automated. In recent years, we have witnessed an almost exponential growth in the capabilities of AI systems fueled by new technological developments such as even more capable graphic chips and more advanced algorithms. Today, the boundaries of AI in decision-making are shifting from the operational to the strategic level. The list of expected benefits from using smart algorithms in strategic decision-making is long. It encompasses increased rationality by reducing cognitive biases, saving time and resources through faster decision-making and the identification of undiscovered opportunities by identifying underlying patterns in customer data – just to name a few.

So, is AI about to decide which new markets companies tackle, which products they launch or which communication and pricing strategy they pursue? Or will it at least be assisting managers in making such decisions? In a recent study (Box 1), we investigated the state-of-the-art of AI in strategic marketing.

Automation in operational marketing is mainstream, but businesses are aiming for more In our sample, not using AI to automate operational business decisions is the exception: 83 % of the managers in our study state that their company already uses AI, such as for automating processes, interacting with their customers or analyzing data.



BOX 1

Study: The status quo of AI in strategic decision-making

To learn more about the status quo of AI in strategic marketing decisions, we surveyed 500 high-level B2C managers responsible for marketing or business strategy from the 2,000 biggest public companies in the world, listed in the Forbes Global 2000. The survey was conducted in early 2022 and encompassed the current role of AI in marketing decisions, managers' expectations and preferences for the future, and it covered a wide range of potential obstacles to the deployment of AI.

The results show that AI is indeed working its way up from the operational to the strategic decision-making level. Managers generally expect AI to play a greater role in shaping a company's strategic path and its market decisions in the future.

But many aim for more. Already, over half of the managers (56%) say their company uses AI for making strategic decisions. Another 20% state that they are running test and pilot cases, while 19% are at least considering doing so. Use cases named range from utilizing AI to analyzing data as a basis for strategic decisions to strategy formulation and execution. For these companies, AI already seems to be an established part of the decision-making process.

From assistant to manager – roles of smart machines in strategic decisions Machines and humans have different strengths in dealing with complex and uncertain decisions. Therefore, it makes sense for managers to team up with machines to augment each other's capabilities. But what does human-machine collaboration ideally look like from a manager's perspective?

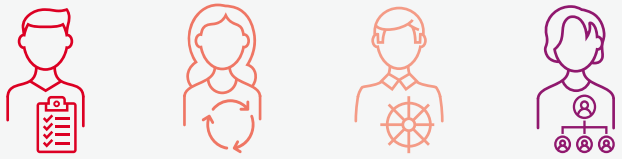
To picture such collaboration between machines and human managers, we developed a typology that differentiates five roles AI can take on in a decision-making process, based on the capabilities of the machine and its level of autonomy. Within this typology, the role of AI can range from "no AI involved" to "assistant" to "collaborator" to "project manager" to "manager" (see Figure 1). As an "assistant," AI just performs certain tasks, while full control of the process lies with humans. This is the role that AI currently holds in most cases in our survey. In the role of a "collaborator," AI applications already control certain parts of the process, but humans regularly interact with the AI and continue to control the overall process. About 26% of respondents state that they consider AI applications in their company to be operating in that role. About 9% of managers surveyed see AI systems that act as a "project manager," where smart machines are in control and make decisions autonomously, while humans still oversee the process and intervene in case of problems. AI applications acting like a general "manager" are still a thing of the future: Only about 1% of respondents stated that full control of strategic decision processes lies with a smart machine that acts without any direct human involvement.

The preferred future is one of augmented decision-making with humans in control As the capabilities of intelligent machines continue to evolve at a rapid pace, the exciting question is where the journey will take us. For the future, the majority of interviewed managers are ready to hand over more control to smart machines and extend the role of AI in strategic decision-making processes. However, they still want to remain in the driver's seat. Most wish to have AI as a collaborator (46%), but 30% of our respondents would also prefer AI to be a project manager 10 years from now when it comes to strategic decision-making.

It makes sense for managers to team up with machines to augment each other's capabilities.

FIGURE 1 > Role of AI in strategic decision-making today and 10 years from now

Let's look at the role that AI plays in strategic decisions in your company – today and 10 years in the future.
Please select the adequate role of AI from the five provided categories ranging from "No AI involved" to "Manager."



	No AI involved	Assistant	Collaborator	Project Manager	Manager
	The process is controlled solely by humans and all tasks are performed by humans without any use of AI.	Full control of the process lies with humans. AI performs certain tasks, initiated, and controlled by humans.	AI controls certain parts of the decision process. Humans interact regularly with the AI and manage the overall process.	AI controls the process, performs tasks and makes decisions. However, humans still oversee the process, get reports of actions and intervene in case of problems.	Full control of the process lies with AI. AI performs tasks and makes decisions without any human involvement.
In general, what role do AI applications like smart algorithms have in strategic decisions **today?**	14%	50%	26%	9%	1%
Imagine the situation in your company 10 years from now. What is **your preference** for the future: What role should AI applications like smart algorithms ideally have in strategic decisions **10 years from now**?	0.4%	20%	46%	30%	3%

Study by the Nuremberg Institute for Market Decisions | Telephone interviews with n=500 high-level executives from large public companies in the USA and Europe in 2022

While managers are generally open to using AI, algorithm aversion – the partial or general rejection of algorithms – can pose major challenges to businesses. One way to reduce or overcome algorithm aversion is exactly what most of the interviewed managers preferred: keeping control or, in other words, keeping the "human in the loop." Research showed that human decision-makers accept an algorithm more frequently when they can modify its decisions or forecasts. It makes the humans feel more comfortable and satisfied with the process.

In an earlier study by the NIM, we found two additional easy but effective measures to overcome algorithm aversion. Algorithm aversion declines over time when people can learn about the technology and get familiar with it. And algorithm aversion can be reduced when decision-makers learn about others who are successfully using the technology.

Still a long way to go – obstacles to the successful application of AI in strategy ✕ With a majority of managers open to teaming up with machines to enhance decision-making, what obstacles are there that prevent organizations from doing so? We have found that the challenges companies face change with their experience and the number of use cases already established.

For laggards, namely companies that have not yet conducted pilot projects for using AI in strategic decision-making, the top-of-mind obstacles are related to a lack of necessary resources. Respondents name issues like insufficient budgets, the lack of the right technological infrastructure, a shortage of know-how inside the company and the unavailability of skilled staff (see Figure 2).

For pioneers – companies that are ahead of the game and already have "some" or "many" AI use cases in place – money and other resource-related obstacles become less important. One exception to the rule is the perceived shortage of skilled staff, which is also among the most relevant challenges for pioneers. With AI experience, other difficulties come to the fore. The pioneers see their biggest challenges in data-related issues, such as dealing with an insufficient database, a lack of transparency of algorithms and problems in sufficiently standardizing complex strategic decisions to apply algorithms.

The algorithm aversion mentioned above can be observed in the obstacle of "negative employee reactions." For laggards that's the second biggest perceived challenge and a major problem, reported by 24 % of managers. While it is not among the most important factors for pioneers, even in companies with considerable AI-systems experience, 19 % of managers interviewed still see AI-related fears and reservations as a major problem. Therefore, even AI pioneers should invest in measures to overcome algorithm aversion.

Companies need to realize that a successful implementation of extended AI support is not only a question of finding the

FIGURE 2 > Obstacles to the use of AI in strategic decision-making

What are the main obstacles for using AI in making strategic decisions in your company?
Please select up to three most important factors that hinder the use of AI in making strategic decisions in your company from the following list or add another factor.

LAGGARDS		
Rank	No pilot or use cases yet of AI in strategic decision-making (n=121)	
1	Too high costs or insufficient budgets	36%
2	Negative employee reactions	24%
3	Insufficient technological infrastructure	22%
3	Lack of know-how on AI	22%
5	Availability of skilled staff	21%
6	Ethical aspects	20%
6	Lack of transparency of algorithms	20%
6	Problems in standardizing strategic decisions	20%
9	Company culture is reluctant to changes and innovation	18%
9	Insufficient database regarding structure and availability	18%
11	Focus of company's AI strategy lies on other business area (e.g., production operations, logistics, HR)	17%
12	Legal aspects (e.g., data security or liability for decisions)	15%
13	Lacking top-management support	12%

PIONEERS		
Rank	Already "some" or "many" use cases of AI in strategic decision-making (n=123)	
1	Insufficient database regarding structure and availability	27%
2	Lack of transparency of algorithms	26%
3	Focus of company's AI strategy lies on other business area (e.g., production operations, logistics, HR)	24%
4	Availability of skilled staff	22%
4	Problems in standardizing strategic decisions	22%
6	Insufficient technological infrastructure	19%
6	Negative employee reactions	19%
8	Company culture is reluctant to changes and innovation	16%
9	Lack of know-how on AI	15%
10	Ethical aspects	14%
10	Too high costs or insufficient budgets	14%
12	Legal aspects (e.g., data security or liability for decisions)	12%
13	Lacking top-management support	11%

Numbers are percentages of cases within each group | Multiple answers (up to 3) possible
Study by the Nuremberg Institute for Market Decisions | Telephone interviews with n=500 high-level executives from large public companies in the USA and Europe in 2022

FIGURE 3 > How to prepare your organization for taking AI to the strategic level

Goals & Expectations
AI is a very complex subject that often suffers from unrealistic and misguided expectations by management. Make sure that senior leaders have clear objectives and realistic expectations of AI use.

Organization & Processes
Cooperate across departments to identify available data and existing use cases. Organize workshops or hackathons to build bridges between data science and product teams. Work closely with internal IT.

Systems & Data
Define a clear data strategy, prioritize AI use cases to solve relevant business problems, clarify data protection issues at an early stage and make sure that data is stored in a standardized way all over the company.

Staff & Skills
As war for talent in data science is tough, be prepared to make some serious investments in attracting and retaining the right dedicated AI specialists.

Culture & Mindset
Address algorithm aversion: Keep the "human in the loop" and give employees the opportunity to playfully try and learn how to work with algorithms. Communication is key: Make it clear that AI implementation is not about replacing humans but about the opportunity to improve decision-making by augmenting human capabilities.

right systems and tools. The power structure changes as soon as AI is used to make strategic decisions. To be prepared as best as possible, it is essential to know in advance which challenges have to be overcome. Figure 3 gives some concrete advice for making your organization fit for AI application in strategic decision-making processes.

Augmented management – building an algorithm-friendly organization An intelligent machine that tells managers what marketing strategy to pursue may still sound like science fiction. And of course, AI is currently still a long way away from "strong AI" in the sense of reaching human-like intelligence. Therefore, handing over strategic decision-making to machines completely does not (yet) seem fully achievable. But even if humans are unlikely to vanish from strategic marketing decision-making in the near future, we see that AI has already entered the arena, and its capabilities are constantly increasing.

74% of managers polled believe that the technical capabilities of AI will evolve significantly over the next 10 years, and 63% are convinced that AI will have a positive impact on their business. Organizations should stop wasting time and address these developments right away by rethinking job descriptions and the necessary skills to prepare for a future of synergetic collaboration where humans and algorithms are joining forces.

FURTHER READING

Eriksson, T.; Bigi, A.; & Bonera, M. (2020): "Think With Me, or Think For Me? On the Future Role of Artificial Intelligence in Marketing Strategy Formulation," The TQM Journal, Vol. 32 (4), 795 – 814.

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The Role of Technology in Modern Marketing

Interview with Scott Brinker, blog author and MarTech pioneer

Modern marketing is relying increasingly on technology. This trend began more than a decade ago and got another boost during the ongoing pandemic: Over the last few years, the technology landscape has experienced an explosion of available applications. While apps and software are collecting and deploying more and more data, privacy legislation is being put in place by many countries, limiting the scope of what marketing is allowed to do with data. In this challenging environment, will MarTech still thrive? How can managers organize and integrate different applications and govern MarTech to comply with consumer expectations and regulations? In this interview, MarTech guru Scott Brinker shares his thoughts on the evolution of platforms, services and technology and how marketers can successfully implement the most promising MarTech applications.

Bernd Skiera × ***We have been discussing digital transformation for over a decade. The process is still underway, and the marketing technology landscape is evolving rapidly. What is happening in Marketing and Sales?***

Scott Brinker × On one side, the way customers engage with brands is now through more digital channels and digital processes; on the other side, our businesses have much more digital processes built into them. The changes on both sides create enormous opportunities and demand for software entrepreneurs.

We see an increasing number of Software-as-a-Service (SaaS) applications, where software is licensed on a subscription basis and centrally hosted by a cloud service. Why do we see so many SaaS apps in marketing?

Actually, this is not only happening in marketing. As software moved to the cloud, creating and deploying on state-of-the-art infrastructures like those provided by AWS, Azure or Google Cloud became much easier. Companies are leveraging all sorts of API services and Open Source frameworks. It has never been a better time to create software in marketing

← SCOTT BRINKER

ABOUT SCOTT BRINKER

Scott Brinker writes the Chief Marketing Technologist blog, chiefmartec.com, where he has tracked the rise of marketing technology – and the profession of marketing technologists – for over 15 years. He is the author of the best-selling book Hacking Marketing.

Scott also serves as the VP platform ecosystem at HubSpot, an all-in-one platform that connects MarTech and SalesTech, helping to grow and nurture the company's community of technology partners. Previously, he was the co-founder and CTO of the platform ion interactive, a pioneer of interactive content marketing software to many of the world's leading brands.

Scott has had articles published in Advertising Age, Adweek, Harvard Business Review and TechCrunch. He holds degrees in computer science from Columbia University and Harvard University and an MBA from MIT. Connect with him on Twitter @chiefmartec.

THE INTERVIEWER

Prof. Bernd Skiera conducted the interview in June 2022.

and sales, resulting in a tremendously long tail of MarTech applications. And the market is growing rapidly.

It is amazing, and I am wondering how to integrate all these apps. Or can we ignore the integration part?

No, the single greatest challenge with MarTech today is integration. Usually, the software is developed around some common platform, like, initially, Windows or, more recently, Apple's iOS or Google's Android for mobile phones. These common platforms provided a structure for the creation of hundreds, thousands and, in the case of mobile, even millions of new apps, and they all integrated because the platform came first. In MarTech, we have had this explosion of software without a core platform at the center.

How is the industry solving the integration challenge?

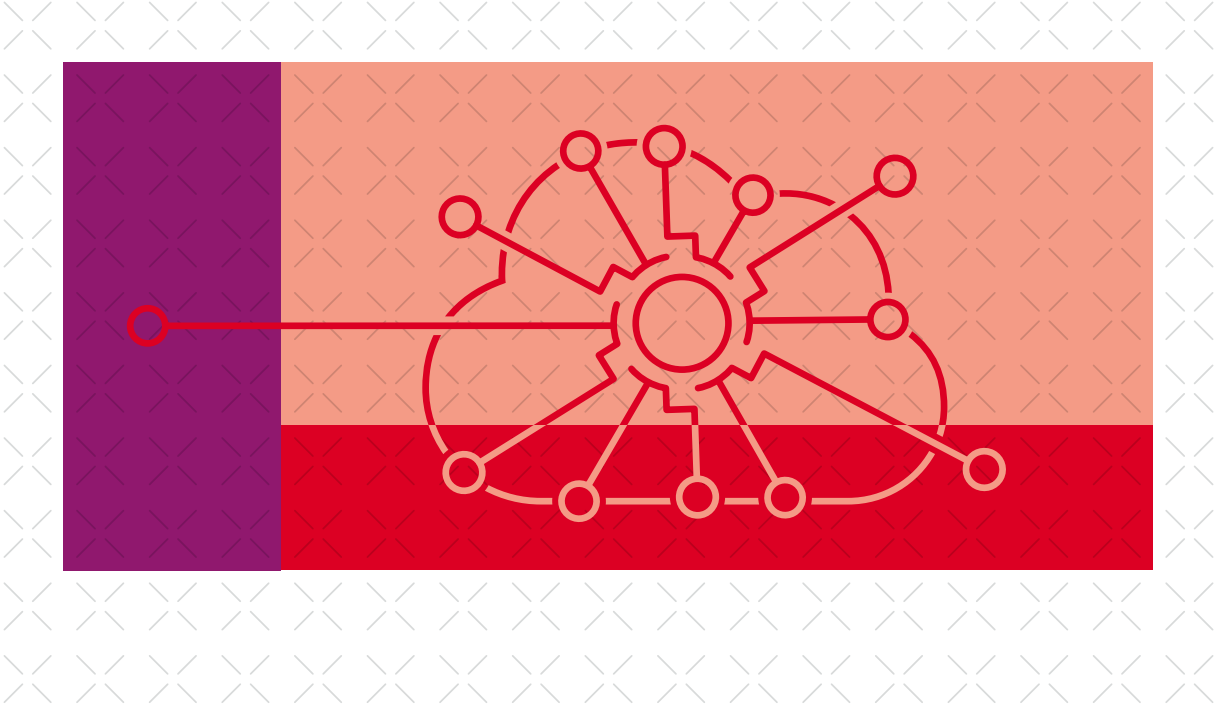
Basically, there are two approaches. One is by trying to create de facto standards or own platforms. For instance, my role at HubSpot is to help them be one of those platforms that makes it easy for hundreds or even thousands of apps to integrate well. But we also see this with Salesforce or Microsoft Dynamics. The major tech companies are trying to lean into such platform approaches to help solve the integration challenge.

What is the second approach for integration?

There is a whole category of software called iPaaS, which stands for ''integration platform as a service,'' and they offer workflow automation tools and the like. Their purpose is to make it easier for companies to integrate any disparate set of apps. We have Workato, Zapier, Marini Systems and others, and this is a thriving category just focused on helping to address the integration challenge.

Is the integration in marketing different from the integration in other areas, or is it irrelevant whether we integrate MarTech solutions or solutions that focus more on finance, accounting, production or operations?

At a technical level, it follows very similar patterns, and the mission for digital businesses is to integrate all of these solutions. You want the entire business operating on a more unified structure, not just MarTech or finance. Right now, it is a long way until we reach this goal, but I am confident that we will keep getting better. Interestingly, marketing operated as a silo. Many of the initial MarTech products were not integrated. There was one application to manage social media accounts, another to run advertising, a content creation platform, and so on.



» *It has never been a better time to create software in marketing and sales, resulting in a tremendously long tail of MarTech applications.* «

What is the problem with operating in silos?

For a long time, marketing focused on a particular output. For example, in B2C, driving people to an e-commerce sale and in B2B, getting qualified leads. And you can easily measure this output. But ultimately, this is not an efficient way to run a business because marketing engagement with customers happens for the entire lifetime. It's not just about an initial sale or qualified lead but about building relationships over time. To do that, you need to integrate all digital systems that customers interact with into a ''golden record'' to know who the customer is.

Do you see a difference between MarTech and SalesTech, or is this just a different label for the same content?

They went different for a while as long as there was an almost binary handover from marketing to sales with different motions for both. But this is changing, partially triggered by the pandemic. Suddenly, many traditional channels like in-person meetings, trade shows or field visits that had worked for decades got shut down or dramatically minimized. So, some salespeople started to embrace more digital ways of interacting with prospects and were getting much more digitally savvy. Consequently, we saw an explosion of SalesTech and the SalesTech landscape went from a few hundred products to a few thousand. And there is now an increasing intersection, if not outright overlap, with how marketing teams use these tools to collaborate with sales teams.

What do MarTech and SalesTech mean for marketing professionals, and what do they need to learn? Do we have to change how we educate students or managers, or could we continue as we did for a long time?

A little bit of both, because marketing is a very rich profession. Understanding everything from consumer behavior to pricing, packaging, and the four Ps, in general, are still relevant today. If you're a marketer, you need those foundational principles of understanding to be able to think strategically. But now, on top of core principles, we have more and more technologies that let us get more creative in how we engage with customers. We get a lot more data from a much more granular set of interactions, which can then feed back into our models of understanding.

Meaning that marketers must also become data-savvy?

Yes, managers need to be able to evolve their marketing strategy based on what they are learning. They can run a lot more experiments. They can learn what works from digital experimentation, which is extremely important for marketing. So, it would be best to become comfortable leveraging data and technology.

The industry promotes so-called no code solutions, allowing nontechnical people to build software without programming skills. Do you think that is an essential feature of software solutions?

I'm a big fan of what's happening here, that you can build an app and just drag and drop things and need no code. No-code is a way of empowering general business users and marketers. It allows them to self-service their needs, like creating a landing page for a marketing campaign. For example, once upon a time, you needed a web developer capable of HTML and JavaScript to create a landing page, which was a huge bottleneck. That is no longer the case because almost all landing pages are created using a no-code approach.

Can no-code also be extended to data analysis?

There will always be a place for expert data scientists, but marketers are curious. They wake up every morning with 100 questions about what happened and how that relates to

» *The single greatest challenge with MarTech today is integration.* «

something else. If they were asking data scientists all the time, they wouldn't get the answer because it would be too expensive and take too long. But it is undoubtedly empowering if you have no-code tools that allow you to get quick answers. So, I look at this whole no-code movement as a way of putting more capabilities directly into the hands of marketers, and I think it will change marketing productivity and creativity.

All those dreams only fly if the data quality is good; otherwise, we have garbage in – garbage out. Are we already capable of avoiding duplicates or inconsistent data?

This topic is related to the no-code discussion because no-code is enabling us to gather or leverage more data in more ways. The upside is a wonderful set of new capabilities, but the other side is how to ensure that the data is adhering to policies and complying with privacy and data governance laws in all countries you are operating in, and this is a real challenge. Companies like DataGrail or OneTrust help aggregate and manage compliance for data across a wide variety of apps. But ultimately, you need to combine technology and people. It's not that you just plug in the technology and it magically does it all for you. There's an enormous people and governance component.

Let's return to the problem of integration and APIs, the application programming interfaces. How important are those and the management of all those APIs?

API gateway management is super important. The pretty pictures of the graphical no-code interfaces need to be translated into a set of API calls that interact with different pieces of software. API gateway software becomes a way to help companies manage commercial third-party APIs from MarTech platforms. But companies also create their own APIs that their employees, partners and customers can leverage.

With all this technology, will the CTO become the CMO, or could we marketers take over the CTO position? How do you see their roles?

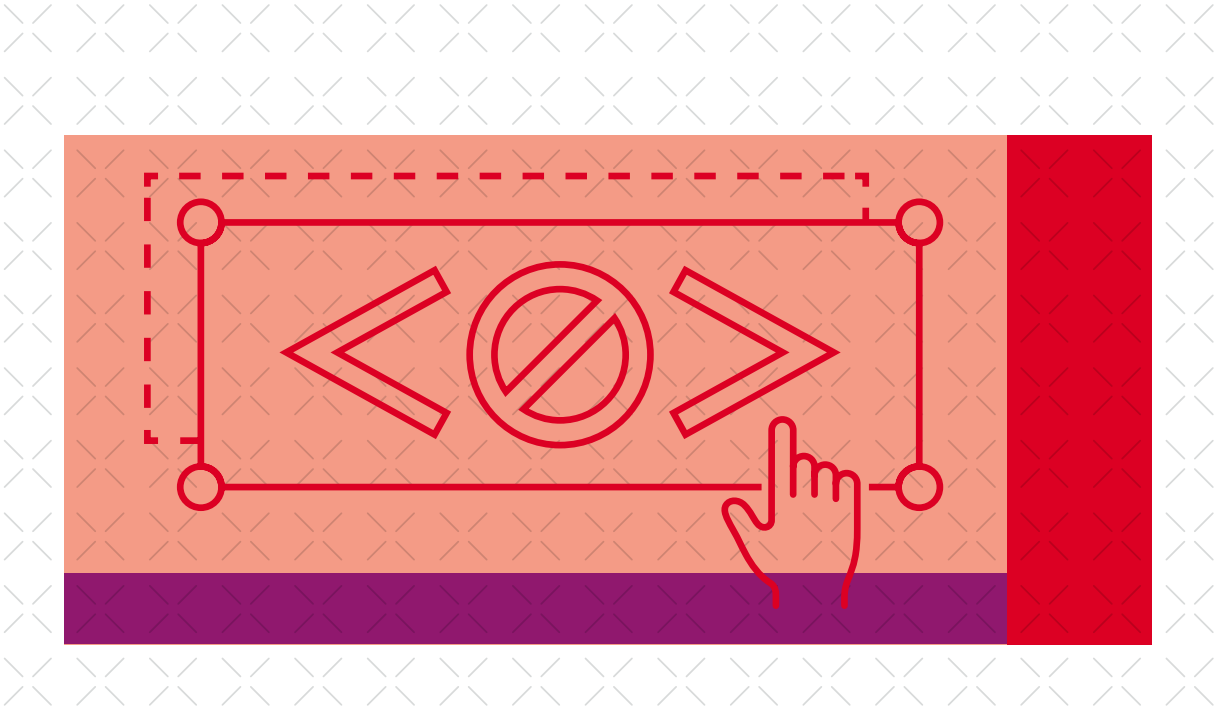
Marketing should not live in a silo but become part of a broader digital business strategy where the CMO, CIO, CTO, the chief revenue officer and all these folks are collaborating to develop a common underlying technology framework to leverage their respective responsibilities. CMOs must be pretty savvy about technology, but I don't think the CMO has to be a technologist. The depth of expertise now required in marketing operations and marketing technology is not something that somebody can just pick up on the side. Both are respected professions by themselves. So you want someone really good at marketing operations and marketing technology working for you.

In Europe, we are very proud of our privacy rules – the GDPR is probably a buzzword worldwide. Are privacy and MarTech a clash of approaches, or are there ways to combine them smartly?

MarTech can either help or hurt the agenda, depending on the specific technology. It's really valuable to have companies like OneTrust or DataGrail, or technology tools that help you understand the provenance of data so that you can live up to any responsibilities, like respecting customer preferences of if and how they want to interact. MarTech can do that and can support modern privacy. Yet suppose you have a diverse and not well-organized collection of different MarTech solutions. In that case, it becomes a liability because you will likely be unable to live up to your compliance responsibilities. We must know the provenance of the data and be able to not only activate the data to engage people. Yet if someone wants to be removed from that process, we must be able to thoroughly respect that.

How do you see the future after, for example, the death of third-party cookies or the death of cookies in general?

If we assume that third-party cookies are going away, one of the natural conclusions would be to focus more on managing first-party relationships with prospects and customers. Many experiences and touchpoints are managed through MarTech capabilities, whether on your website, a mobile app



I look at this whole no-code movement as a way of putting more capabilities directly into the hands of marketers, and I think it will change marketing productivity and creativity.

or another engagement channel. So you have to make the marketing technology effective for a first-party world.

Let's quickly hit another much-debated topic: the metaverse. Is the metaverse just a buzzword or indeed an upcoming opportunity?

Both. The metaverse is probably one of those classic Gartner hype-cycle topics where we are approaching the peak hype. Ultimately, there's something very real in the metaverse, ironically. The technology keeps advancing to allow us deeper engagements through augmented or virtual reality. Some things we used to think of as science fiction will become real, not necessarily in a year or two years, but over 5 to 10 years.

How should marketers deal with the metaverse?

They should be careful about getting ahead of themselves, as some of the metaverse platforms are mature. It depends on your business. If you are primarily selling to people through online games, for instance, worlds like Roblox or Fortnight are already very real channels. The metaverse can be a new channel for marketers in various industries. Even if it is a buzzword today, something big is evolving slowly and steadily, and I would pay attention to it.

With this outlook, I would like to conclude. Thank you very much for this fantastic interview, and good luck with your ventures.

Editors

ABOUT BERND SKIERA

Bernd Skiera is a chaired professor of electronic commerce at Goethe University Frankfurt (Germany), in addition to being a professorial fellow at Deakin University (Australia) and a member of the board of the EFL-Data Science Institute and the Schmalenbach-Gesellschaft. He researches on electronic commerce and online marketing, marketing analytics, data-driven marketing, machine learning, marketing technologies (''MarTech''), sales technologies (''SalesTech'') and online consumer privacy. In 2019, he received an ERC Advanced Grant to research consumer privacy on the internet. His publications have appeared in journals such as Management Science, Marketing Science, Journal of Marketing Research and Journal of Marketing. He is the winner of the 2018 Sheth Foundation/Journal of Marketing Award, a winner and a three-time runner-up of the MSI/H. Paul Root Award of the Marketing Science Institute and the American Marketing Association. He has been a visiting professor and scholar at Stanford University (USA), the University of Cambridge (UK), New York University (USA), the University of California Los Angeles (UCLA) (USA), Duke University (USA), Penn State University (USA), the University of Technology in Sydney (Australia) and Vienna University of Economics & Business Administration. In addition, he is a co-founder of Marini Systems (www.marini.systems), which provides an enterprise data integration platform.

EDITOR
Bernd Skiera
Chair of Electronic Commerce,
Faculty of Business and Economics,
Goethe University, Frankfurt, Germany
skiera@wiwi.uni-frankfurt.de
www.ecommerce.wiwi.uni-frankfurt.de
www.skiera.de

MANAGING EDITOR
Christine Kittinger-Rosanelli
NIM Marketing Intelligence Review
Nuremberg Institute for Market Decisions
christine.kittinger@nim.org

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Nürnberg Institut für Marktentscheidungen e. V.
(Nuremberg Institute for Market Decisions)
Founder and anchor shareholder of GfK SE
Steinstraße 21
90419 Nuremberg
Germany
Tel +49 911 95151983
Fax +49 911 376 77872
Email: hello@nim.org
www.nim.org

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