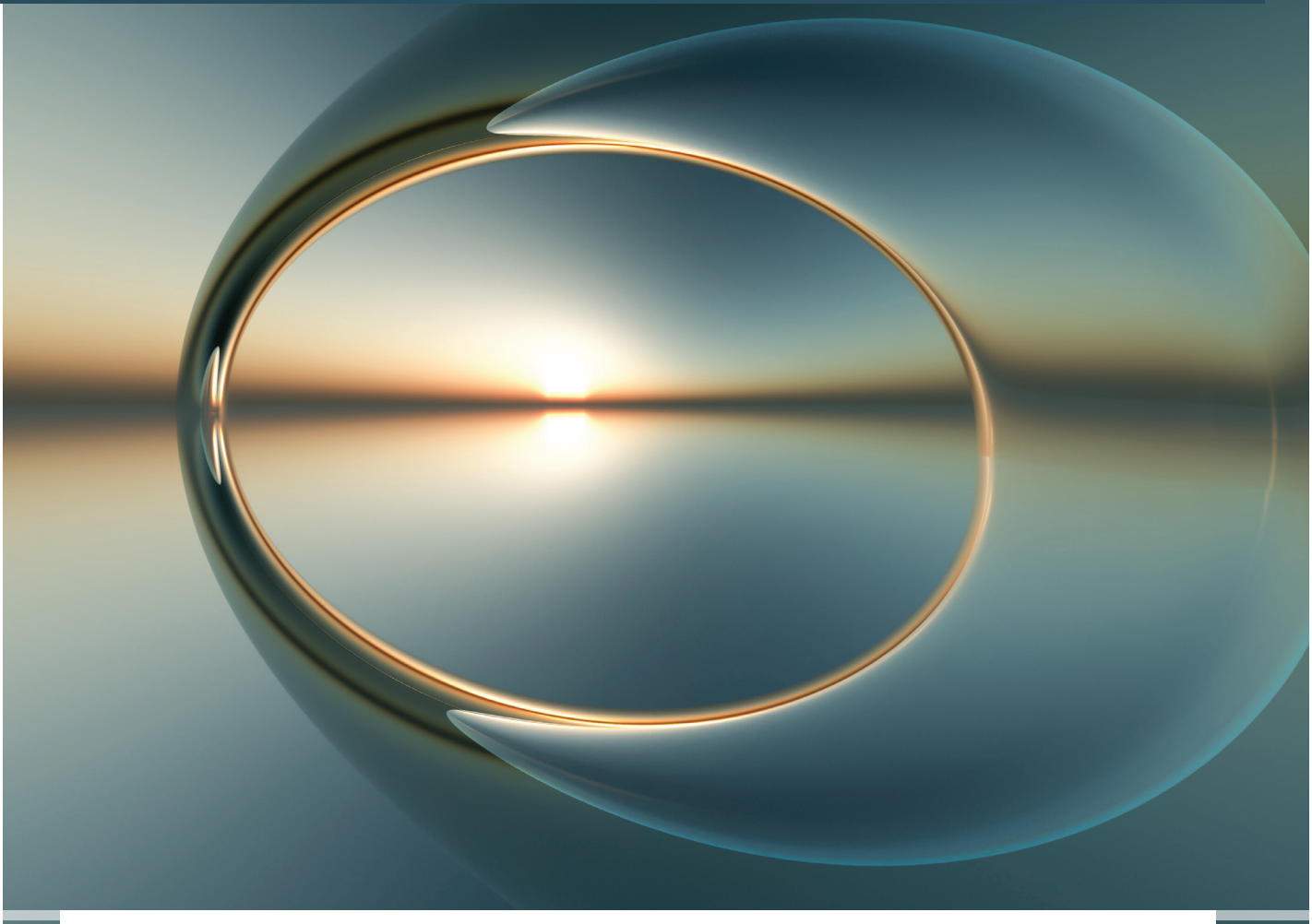
3 Visions of the Future of AI for Customer Engagement: 2027 Scenarios



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Jerry Wind
The Wharton School, University of Pennsylvania

Mukul Pandya
The Wharton School, University of Pennsylvania

Margherita Pagani
SKEMA Business School

Jerry Dischler
Google

Artificial intelligence (AI) is making deeper inroads into every aspect of business and society every day. By 2027, how will AI transform the future of customer engagement? *Management and Business Review* and the Association of National Advertisers' (ANA) Global Chief Marketing Officer (CMO) Growth Council recently organized a forum to discuss three possible scenarios for the future – optimistic, pessimistic, and realistic.

The goal was to develop consensus on the most likely ways in which AI will transform customer engagement in the next few years. Most importantly, participants focused on what steps to take today to prepare for 2027. These

insights are contained in this special issue of *Management and Business Review* on customer engagement.

The forum was moderated by Professor Jerry Wind, the Lauder Professor Emeritus and professor of marketing at the Wharton School of the University of Pennsylvania and editor of this special MBR issue on AI for customer engagement, along with Nick Primola, ANA executive vice president and director of its CMO Growth Council. Samantha Stetson, vice president client council and industry trade relations at Meta, presented opening remarks.

The event aspired to "agree on a most realistic future-state so that we could help business executives plan their roadmap to take action," Primola said. "And – importantly – for the industry to work together to ensure that we end up closer to the more optimistic state versus the most pessimistic."

When work began on this special issue, generative AI did not have the momentum it developed in the beginning of 2023. It is clear now that generative AI holds tremendous promise. This fast-developing wave was further energized in March 2023, when OpenAI launched GPT-4, its latest large language model. The announcement on Open AI's website said that "GPT-4 is OpenAI's most advanced system, producing safer and most useful responses." According to OpenAI, the new software "can solve difficult problems with greater accuracy, thanks to its broader general knowledge and problem solving abilities."

Early experiments indicate that GPT-4 could have a profound impact upon every industry. *The New York Times* columnist Thomas L. Friedman, after seeing a demonstration of GPT-4, quoted Arthur C. Clarke, who wrote that "any sufficiently advanced technology is indistinguishable from magic." Friedman also quoted Craig Mundie, the former chief research and strategy officer for Microsoft, who said, "This is going to change everything about how we do everything…[I]t represents mankind's greatest invention to date."

Other observers have been equally optimistic. Shelly Palmer, a professor of advanced media in residence at the Newhouse School of Public Communications and CEO of The Palmer Group, says that with GPT-4, generative AI comes close to "sparks of artificial general intelligence," which means that it has capabilities that are at or above human level. Palmer believes that "by assisting its users with a wide variety of tasks," generative AI tools such as GPT-4, if used well, "will be a force multiplier for productivity across every enterprise."

All this was still in the future in 2022 when the workshop considered the three scenarios. Yet these developments in generative AI do not change the importance of the conclusions we drew at the workshop. Instead they suggest the urgency of understanding the implications of current developments on AI and customer engagement and the need for constant experimentation and decisive action.

The optimistic scenario

The increasing deployment of AI should bring about several benefits, one of which is its ability to parse big data to get at the good data. "At present, 10 percent of the data that companies gather is useful, and 90 percent is junk," one participant said. "AI will help to convert the junk into useful data."

Auto insurer Metromile, for example, introduced a pay-as-you-go model based on granular customer data of actual driving behavior. Customers who drive fewer miles along less congested roads could pay lower premiums than those who drive longer distances along crowded highways.

Some participants said AI permits companies to take a 360-degree view of their data, which should increase customer engagement. Companies will also be able to respond faster to outlier events like supply shortages and support end-to-end value chains.

Another optimistic view was that AI would enhance creativity in two ways. The first through AI-powered tools that boost human

Table 1: Optimistic scenario

Artificial intelligence is expected to

- Raise customer engagement and satisfaction through increased personalization
- Raise customer satisfaction by offering faster, cheaper services
- Improve the usefulness of data
- Bring customers closer to the board room
- Enhance the capabilities of augmented reality
- Provide a 360-degree view of data and make it more accessible
- Support end-to-end value chains
- Expand human creativity
- Optimize change management
- Foster innovation
- Automate repetitive tasks, freeing humans to focus on higher-value activities
- Enhance human interaction
- Enhance trust by deftly identifying fakes
- Correct information imbalances
- Foster better partnerships and segmentation
- Encourage self-governance and ethical AI
- Improve 24/7 customer service
- Be tailored to support professionals
- Improve quality control and checks and balances
- Improve efficiency and optimization
- Enable a broad range of access via education
- Improve media buying
- Increase transparency

creativity, making it possible to produce artistic works such as images or paintings with simple text prompts.

The second is by eliminating the drudgery of tasks that stifle creativity. Photographers who are freed from monotonous and repetitive chores like image cropping could spend more of their time on creative tasks like composing images. The integration of AI with other advanced technologies, such as augmented reality (AR), should spur creativity.

Some participants said AI would affect customer engagement in the next few years by allowing companies to proactively understand and anticipate the needs of customers. "Companies today are looking at AI as a means of cost efficiency, process efficiency, which is all well and good, but the end game should be meeting customers where they are," a participant said.

Some noted that AI will be important in building trust between companies and their customers. They pointed out that as companies produce more content, AI will make it possible for them to identify and eliminate fraudulent content such as deep fakes – even as AI can also create fake content – with the result that content will become more credible and trustworthy.

Eliminating fake content from the Internet would be impossible without the speed and scale of AI. "AI will increase transparency," one participant noted. "Can AI verify facts?" another asked. If it can, it will increase trust, which is critical to customer engagement.

AI would also improve human interaction, participants noted. It not only enables the creation of better content faster through natural language generation, but allows for much more precise delivery to the right audience. AI will make content producers more efficient as well as "support the expression of diverse viewpoints," a participant said.

The pessimistic view

For almost every positive aspect of AI, forum participants who took the pessimistic view saw the corresponding downside.

Take, for example, the view that AI will increase the usefulness of data; it could be a double-edged sword. Consider auto insurance again. If AI can crunch sensor data about each trip to better assess risk and potentially lower premiums, perhaps it can also discover what the car's occupants are doing. Not only is this an invasion of privacy, but "if your kids are watching TV in the car, you might have to pay more," said a participant.

Moreover, bringing fresh streams of data into decisions about pricing insurance at variable rates for different customers does not mean that these decisions will be, or be perceived to be, fair. "If I am an Uber driver who doesn't make much money, I might be paying more in insurance costs than what I earn driving for Uber," said a participant. "Taxing the poor this way can expose a lot of inequities. A rich person who drives little may have to pay less than a poor person who has no choice but to drive for work."

The view that AI can increase trust was also disputed by some. One participant said that AI can undermine trust by encouraging decisions that are entirely transactional rather than human or empathetic. "My view is that the deployment of AI, either intentional or unintentional, undermines trust in systems. The number one way that AI is used for behavior modification is in e-commerce, in getting people to buy things. If it turns out that they are being prompted to buy things that they do not necessarily need, people may perceive AI as being manipulative rather than helpful. AI uses math to make predictions, but that does not mean that the predictions will be ethical."

The ethics of AI will continue to pose an ongoing challenge, according to the forum participants. Although neural networks and deep learning have had an enormous impact in many areas, if the training data is inherently biased for historical reasons, the predictions and recommendations of AI will reflect that bias. This is especially true when AI is used for predictions in areas such as judicial programs, where future potential offenders are often predicted to belong to certain racial groups based on biased historical data.

The pessimistic scenario also regarded the impact of AI upon human interaction and communication in darker terms than the optimistic one. When AI algorithms or bots are paired with social media platforms, they seem to aggravate social fragmentation and division rather

Table 2: Pessimistic scenario

Artificial intelligence could lead to

- Worsening of the silo effect, leading to social polarization if paired with social media
- Overcrowding of the search engine optimization space if everyone uses AI for it
- Loss of privacy
- Exclusion of certain groups
- A loss of the human factor in increasingly transactional decisions
- A fuzzy boundary between AI and human effort
- A need for guardrails even if AI is an incredible tool
- Challenges in regulating and setting governance standards
- A view that it is more manipulative than helpful in its selling efforts
- Increased societal risk through manipulation of information, especially video
- Increased mistrust
- Loss of creativity
- Biased outcomes due to being trained on biased data
- Worsening of the wealth gap and social disharmony
- Pollution of content

than the reverse. As one participant noted: "All AI will become a technology that social media will exploit to further polarize society."

Most realistic scenario for 2027

According to participants at the forum, the most likely scenario for 2027 will be a blend of the optimistic and pessimistic views. For example, AI will continue to make deep inroads in many industries, with more enhancements to come. "AI and humans will continue to support each other in improving the overall experiences that customers are getting and creating new channels of engagement for customers," a participant noted.

Another participant noted that "we will see more AI-human collaboration." However, "we will see fewer cases where marketers let the AI run wild, and more cases where AI is producing things within the confines of marketers, which allows teams to get more done with teams of the same or smaller size. Another thing is, (the AI wild west) will get worse before it gets better in terms of companies claiming to be AI when they are really not."

AI will supercharge and democratize creativity. "The ability of AI to synthesize content will move to a capability that the world has never had before, on still images, video images, and written content," one participant said. "That will have massive implications. That capability won't just be available for the biggest and richest companies; it will be widely available."

In addition, by 2027 companies will substantially increase their investment in educating employees about AI. While today the public is at a very early stage of understanding AI, with many who have heard about AI but do not know exactly what it means, people will be motivated to learn more about it as more industries start using AI extensively. "This will drive investments in AI education," a participant said. "This is a realistic scenario."

The years to 2027 will also see increasing integration of AI with the metaverse, often described as the next iteration of the Internet, marked by increasing use of augmented reality and virtual reality. "Reinventing AI for the metaverse is something that currently is not complete," said a participant. It will move much further along in the next few years.

Some participants noted that by 2027, the most prevalent use of AI in business systems will be for optimization. AI will help organizations get things done faster and more effectively. "The other area where we think AI is going to be effective is in what we call mission-safe applications," a participant noted. "Netflix is a mission-safe application. You can try an experiment on Netflix and see if the viewer likes it. Areas like e-commerce and entertainment are not dangerous, and AI will proliferate there."

What is to be done today?

In addition to discussing these three scenarios, the forum focused on the importance of users considering what will position them well for the future, while examining the implications of AI on customer engagement today. "The important thing is that every one of us should try to consider what these ideas mean. How can we actually leverage AI? AI is going to be with us forever. How will we increase its impact?" said Professor Wind. "We have to think about this going beyond the current utilization. Think about the innovative new insights we can gain as a result of this amazing technology; and think about human-AI interaction as the new unit of analysis in each area with which we are dealing."

Table 3: Action items by 2027

Companies should

- Experiment on how AI can increase productivity
- Find ways to enhance human-AI collaboration
- Improve regulation to dispel inaccurate claims about AI
- Leverage AI to improve efficiency and data optimization in various fields
- Deploy AI to influence environmental, social and governance (ESG) concerns and ethical marketing
- Focus on human-centric AI, with people defining virtues and values
- Focus on empathy
- Avoid letting AI turn the Internet into a 'splinternet'
- Recognize that AI will touch more and more areas, outpacing customer understanding
- Demystify AI by educating all customers
- Prioritize ideas that enhance customer engagement
- Meet customers where they are, based on their needs and interests
- Understand the need for clarity about black-box AI processes
- Move from AI as a high-tech asset to broad access
- Understand and act upon the relationship between AI and creativity

Ten Scenarios for 2041 - from Kai-Fu Lee and Chen Qiufan

While the forum focused on the period up to 2027, it may also be useful to look further out to see how AI might impact customer engagement, business, and society over the next twenty years. To do this, we considered the book, *AI 2041: Ten Visions for Our Future*, by Kai-Fu Lee and Chen Qiufan.

Kai-Fu Lee is the CEO of Sinovation Ventures and the author of *AI Superpowers*, a book that deals with the emerging AI rivalry between the U.S. and China. A former president of Google China, he is now cochair of the Artificial Intelligence Council at the World Economic Forum. Chen Qiufan, also known as Stanley Chan, is an author and translator, and founder

of the content studio Thema Mundi. Chen was Kai-Fu Lee's colleague at Google. He is the president of the World Chinese Science Fiction Association and the author of *Waste Tide*, published in English in 2019.

The book *AI 2041* is an unusual blend of science fiction and analysis. It contains ten scenarios, or visions, of what is likely to become reality over the next twenty years. These visions take the form of ten science fiction stories written by Chen, each set in a different part of the world. Each story is followed by commentary from Lee. The combination of compelling sci-fi with real-life analysis makes the book fascinating reading.

Of the ten stories, the first seven cover how different industries might apply AI technology. The rest focus on social and geopolitical issues raised by AI.

1. **The Golden Elephant**: Set in Mumbai, India, the story introduces the reader to the basics of AI and offers a sense of its strengths and weaknesses. It asks what risks might emerge when one company possesses a tremendous amount of user data, considering the applications of big data and their privacy implications. "Deep learning makes it possible to customize content for individual users, showing them content that is most likely to appeal to each of them," Lee writes. "This produces greater customer engagement and clicks and purchases than the static, traditional websites were able to do. As companies collect more data about the users, they make more money."
2. **Gods Behind the Masks**: The story revolves around a Nigerian video producer who tries to make undetectable deep fakes with dangerous consequences. Masks become surveillance devices. As Lee notes in his comments, "Computer vision teaches computers to 'see' and recent breakthroughs allow AI to do so like never before." He explores impending breakthroughs in "computer vision, biometrics, and AI security" that make it possible to create deep fakes and other forms of cybercriminal activity.
3. **Twin Sparrows**: This story explores the future of AI education embodied by smart AI teachers "camouflaged as virtual cartoon-like friends." This story is based on natural language processing, which according to the authors is "poised for a meteoric rise in the next decade." Other themes that Lee explores in his commentary are self-supervised training, GPT-3 (or any of the more advanced large language models), artificial general intelligence as well as AI education.
4. **Contactless Love**: Set in China, this story deals with AI in health care. It "explores some of the questions raised by the arrival of a globe-altering pandemic, including its stresses, and also how COVID-19 has accelerated trends such as drug discovery, precision medicine, and robotic surgery," according to Lee.
5. **My Haunting Idol**: This story and commentary depict the future of entertainment, where "games become immersive and the boundary between the real and the virtual is blurred." Set in Tokyo, this story is about how a fan investigates the death of her idol who is brought back to life using virtual reality. In his commentary, Lee discusses the blending of AI with virtual reality, augmented reality, mixed reality, and the brain to computer interface, as well as ethical and societal issues. As the metaverse evolves further and is integrated with AI, this has profound implications for the future.
6. **The Holy Driver**: The story is set in Sri Lanka and imagines a society that is transitioning from human to autonomous driving, powered by AI. In his comments, Lee discusses autonomous vehicles, smart cities, and their ethical and social implications.
7. **Quantum Genocide**: One of the most powerful stories in the book, the story is about a European computer scientist who becomes unhinged and sets upon a course of destruction straight out of a James Bond film. It is set in Iceland. In his comments, Lee describes how quantum computing could turbocharge AI over the next couple of decades.

   "AI-enabled autonomous weapons could become an existential threat to humankind," he writes. Lee notes that in the past, nuclear weapons were seen as a powerful threat to the world, but they are expensive and only a few countries have them. In contrast, the danger of autonomous weapons is that their cost is low. For about $1,000, anyone can equip a drone with facial recognition technology, GPS, and dynamite, creating an assassination machine. "Terrorists do not have to sacrifice their lives if they use these kinds of suicide bombs." Lee believes that countries are not taking this emerging threat seriously enough.
8. **The Job Savior**: Set in the U.S., the story explores what will happen to human jobs as more industries adopt AI. "Technologies such as robotics and robotic process automation will evolve and take over tasks for white- and blue-collar workers," Lee notes. His commentary covers job losses caused by AI and potential solutions such as universal basic income.
9. **Isle of Happiness**: In his commentary, Lee wonders, while

AI may make us efficient and wealthy, can it make us happy? The context for his question is the book's ninth story about a Middle Eastern monarch who wants to use AI as an "elixir for contentment." In addition to questioning whether AI can be used to create happiness, Lee addresses how regulation and privacy factor into the equation.

10. **Dreaming of Plenitude**: Lee notes in his commentary that "AI will drive down the cost of almost all goods, most of which will be produced for next to nothing." This story is set in Australia and explores abundance, new economic models, and the future of money.

By combining science fiction with factual analysis, the ten powerful stories in this book help readers to understand the likely impact of AI on customer engagement, business, and society well beyond 2027.

Concluding note from the editors:

The 2027 scenarios – optimistic, pessimistic, and most likely – as well as the actions that companies need to take today to prepare for a world in which AI will drive customer engagement and much else, were developed over two and a half hours in an interactive, online-offline forum with more than seventy experts from industry and academia.

As we explore further and deeper into likely future scenarios with larger and more diverse groups, they will enrich these conversations. To balance the session's outcome with a different and longer-term perspective, we have included a summary of *AI 2041*.

The current hype about generative AI does not reduce the importance of the recommendations we developed at the workshop. On the contrary, generative AI highlights the need to act now. The current environment will turbocharge involvement of AI in the way we live, work, and play. That will make understanding and preparing for the future of AI in customer engagement more essential than ever.

Our hope is that the readers of this special issue, keen to dive into innovative applications, thought leadership, and insights about AI for customer engagement, will treat these ideas not just as interesting reading, but as a basis for action. We hope you will use them as a starting point to build your own scenarios, construct your own experiments, and see how you can use AI to build greater customer engagement while sidestepping its pitfalls.

Designing and conducting experiments with AI to enhance customer and human engagement is the best way to get the most from this issue and to learn valuable lessons about this important topic. We hope we have enriched your journey into using AI to enhance your customers' engagement. ■

Author Bios

Yoram (Jerry) Wind is the Lauder Professor Emeritus and Professor of Marketing at Wharton. He founded and long directed the SEI Center for Advanced Studies in Management. He has published more than 300 articles and contributions, and 30 books. An AMA Fellow, Legend in Marketing, and consultant to companies and nonprofits, he holds an honorary doctorate from Reichman University. His research concerns the impact of AI on marketing-driven business strategy, creativity, and innovation.

Mukul Pandya is the founding editor in chief and executive director of Knowledge@Wharton, the online research and business journal of the Wharton School. After retiring from K@W, Mr. Pandya was a senior fellow with Wharton Customer Analytics and AI for Business. A four-time award winner for investigative journalism, Mr. Pandya has published articles in *The New York Times, The Wall Street Journal, the Economist, Time, The Philadelphia Inquirer,* and more. He has written or coauthored four books.

Margherita Pagani, Ph.D., HDR, is a Professor of Digital and Artificial Intelligence in Marketing, and Director of SKEMA Research Centre for Artificial Intelligence at SKEMA Business School (France). She is an advisor for the European Economic and Social Committee (EESC), a research affiliate at the Berkeley APEC Study Center (Basc,) and associate editor for Micro & Macro Marketing. Her research focuses on the impact of AI on consumer behavior and digital ecosystems.

Jerry Dischler is a Vice President and General Manager at Google, overseeing Google's advertising products. A 15+ year Ads veteran, Jerry led Google beyond plain text ads to deeper experiences, developing Ad Sitelinks and Product Listing Ads and helping to define the future of advertising at Google. Before Google, Jerry held a variety of engineering and leadership positions. He earned his bachelor's degree from the University of Chicago and his MBA from The Wharton School.