Creational and conversational AI affordances: How the new breed of chatbots is revolutionizing knowledge industries

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Abstract   The new generative AI (GenAI) paradigm offers unprecedented opportunities for users to tap into. AI capabilities are increasingly helpful in creative and knowledge-intensive domains that have long been considered a territory of human expertise. The new breed of chatbots is based on large language models (LLMs), and they have overcome many constraints that plague the everyday use of previous AI technologies. This article employs the theory of affordances to understand how ChatGPT facilitates (i.e., affords) and constrains (i.e., disaffords) the usefulness of a new breed of chatbots. We further divide two distinct yet interrelated dimensions of new AI affordances: creational and conversational. Via 29 interviews with professionals using ChatGPT in various creative and knowledge-intensive sectors, we identify three creational affordances (content creation and enhancement, knowledge acquisition and creativity augmentation, and task automation) and three conversational affordances (contextual sensitivity, interactive accessibility, and human-AI workflow synergy). Creational affordances refer to the system's ability to produce novel outputs and automate routine work, whereas conversational affordances encompass the variety of interaction possibilities with an AI system. Both affordances also involve disaffordances that limit the usefulness of the new types of AI systems. Furthermore, we introduce an integrated framework that shows how creational and conversational affordances reinforce each other via meta-affordances of accessibility, accumulation, and adaptability. We illustrate our findings with practical examples and offer guidelines for using these emerging capabilities in company settings.

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1. The emerging potential of the generative AI revolution

Once considered the domain of computer scientists and software engineers, AI has become important for practically everyone. Chatbots, algorithmic tools, and other interfaces—most prominently, ChatGPT (Chat Generative Pre-trained Transformer)—have provided access to large language models (LLMs) to everyday users who are continuously coming up with new use cases across all types of industries (Dwivedi et al., 2023; Ritala et al., 2024). Although the new generative AI (GenAI) revolution promises that AI can do everything and anything, many are confused about exactly what it can do for them and their companies. Given the accumulating evidence (Brynjolfsson et al., 2023; Feng et al., 2024; Gilardi et al., 2023; Noy & Zhang, 2023) and consultancy-generated estimates (Chui et al., 2023) about the productivity benefits of GenAI, it is important to understand how to make the best use of this new technology. To date, every organization has had to create its own procedures and practices, and universal practices are lacking. To make things more difficult, AI-based tools evolve quickly, and the guidelines that were solid yesterday may be outdated tomorrow. At the time of writing this article, we are still in the early days of ChatGPT and GenAI, which means that nobody fully understands the extent to which work practices will change in the coming years.

The literature in this area is still nascent, with evidence only beginning to emerge. The first studies have showcased various ChatGPT use cases across industries (Dwivedi et al., 2023; Ritala et al., 2024) and in specific industries or contexts, such as marketing and advertising (Cui et al., 2024; Osadchaya et al., 2024; Paul et al., 2023), customer service (Ferraro et al., 2024), tourism (Carvalho & Ivanov, 2023), education (Hashmi & Bal, 2024; Kasneci et al., 2023), and innovation management (Bouschery et al., 2023; Sundberg & Holmström, 2024). However, there is no consensus on exactly how this new technology fundamentally changes users' abilities in their professional and organizational environments. Finally, it is still unclear what tangible steps companies, their managers, and individual experts should take to turn ChatGPT and GenAI into valuable tools for their daily lives and contribute to the competitive advantage of companies.

We adopt the *technology affordance theory* (Faraj & Azad, 2012; Leonardi, 2011; Retkowsky et al., 2024; Trocin et al., 2021) to examine what affordances (i.e., action potentials of technology) ChatGPT provides its users in professional settings across industries and what disaffordances (i.e., constraints) of previous generation AI systems and chatbots (see, for example, Lin et al., 2022) it helps overcome. Creative tasks were previously considered unlikely to be completed by AI systems because of the pattern recognition nature of AI (Kaplan & Haenlein, 2020), yet ChatGPT can overcome such constraints because of the new affordances it provides. In addition, more primitive AI systems were difficult to access because of their code-heavy interfaces (Sundberg & Holmström, 2023). However, ChatGPT overcomes this hurdle by enabling people with little to no expertise to test prompts and develop code as well. In this article, we focus on two distinct but interrelated dimensions of new AI affordances: creational and conversational. *Creational affordances* involve the creative and productive outputs generated by ChatGPT, while *conversational affordances* involve the possibilities of users interacting with AI systems. These two dimensions are now available in the new breed of chatbots—not only ChatGPT but also an increasing number of competing tools and capabilities.

Our insights are based on 29 interviews conducted in Finland in the spring of 2023 with professionals working in creative and knowledge industries (e.g., advertising, marketing, business consulting, software development, education, and legal advisory). Based on our inductive analysis of these interviews and the emerging literature on generative chatbots, we distinguish the creational and conversational affordances of ChatGPT and provide practical illustrations and use cases. We also identify new emerging disaffordances that demonstrate how new risks and limitations also arise along with new opportunities. Based on our empirical insights, we develop a framework demonstrating how the two sets of affordances mutually reinforce each other in a virtuous cycle—including three important meta-affordances: (1) accessibility, (2) accumulation, and (3) adaptability—which further facilitate value creation. We conclude with a set of recommendations for professionals and managers on how to make the best use of these new capabilities.

2. New technology affordances and disaffordances of AI

Technology affordances refer to "the possibilities for goal-oriented action afforded to specific user

groups by technical objects" (Markus & Silver, 2008, p. 622). In other words, affordances involve different ways in which a user can interact with or utilize a technology based on its features. Scholars have shown that technologies both facilitate and constrain individuals' goals (Faraj & Azad, 2012). Technology constraints, or *disaffordances*, refer to the actions that users are unable to accomplish using a particular technology (Lin et al., 2022). In addition, when individuals feel that technologies constrain them, they tend to change the technologies, yet when technologies enable them to do new things, individuals tend to change their routines (Leonardi, 2011). Therefore, technology affordances and disaffordances are not inherent properties of users or characteristics of the technologies themselves. Rather, they represent how a user interacts with the technology to realize their own goals. For example, natural language processing (NLP) is a core feature of AI that enables machines to generate human-like language. This feature affords a conversational interaction between users and AI. Understanding how technologies enable or constrain users also has implications for how designers create user-friendly interfaces and view the technology beyond its features (Faraj & Azad, 2012). New technologies like AI can also create new routines, practices, and capabilities among users and within organizations. In doing so, they can help overcome disaffordances of previous technology while potentially introducing new constraints as well. In other words, with each new technology paradigm, a new set of affordances and disaffordances arises.

Different AI technologies have previously allowed individuals and organizations to effectively explore and search for knowledge (Haefner et al., 2021). Such possibilities are now widely disseminated and improved dramatically with the advent of LLMs and GenAI (Bouschery et al., 2023). These capabilities of the new breeds of chatbots like ChatGPT help overcome many of the disaffordances that have been limiting AI so far in the creative and knowledge industries.[1] For instance, rule-based chatbots have long been prevalent, and they rely on large datasets to detect patterns and create rules, yet their limited training data confine their understanding of new and unlikely scenarios (Paschen et al., 2019). In addition, the previous generation of chatbots lacked human qualities like the ability to express emotions and understand the user's varying contexts (Lin et al., 2022; Murtarelli

et al., 2021)—affordances that are imperative to having an engaging user experience. Although AI chatbot design has been focused on making it more user-friendly, only a handful of conversational chatbot solutions, such as IBM Watson, have been designed to mimic human qualities while also allowing for more flexible and empathetic responses as compared with static responses by the rule-based chatbots (Adam et al., 2021).

The previous AI paradigms involved expert systems and machine-learning-based predictions that excelled in information processing, prediction, and analytics but lacked the holistic and intuitive abilities of humans (Jarrahi, 2018). These paradigms included for example, supervised learning (the computer learns from a set of input-output pairs, and AI is provided with labeled data), unsupervised learning (the computer learns without explicit instructions and finds structures in the data on its own), and reinforcement learning (the computer learns through rewards and punishments and adjusts its actions based on human feedback), or some combination of them. In contrast, modern GenAI systems allow users to create completely new content and provide a new set of technology affordances, therefore expanding to human-only territories by augmenting human capabilities across a diverse range of fields. The development of a GenAI paradigm has gradually built up in recent years as various approaches to deep learning, neural networks, and natural language processing have been used for some time to summarize and create knowledge (Jarrahi et al., 2023). However, until the arrival of ChatGPT and similar easy-access tools, such capabilities mostly benefited professional and advantaged users. The availability of ChatGPT and other GenAI tools by everyday users has greatly increased the exploration and diffusion of the potential use cases and practices (i.e., affordances) of AI systems, as well as helped overcome the constraints of previous-generation AI.

3. The new breed of AI affordances

Recently, the new wave of GenAI tools such as ChatGPT has received significant attention and shown preliminary evidence for a variety of productivity benefits. An early contribution by Bouschery et al. (2023) demonstrated that GPT models can augment human creativity in new product ideation and concept creation processes. Ritala et al. (2024) showed that ChatGPT has allowed knowledge workers in different industries to routinize mundane knowledge work tasks (e.g., drafting emails and summarizing meeting notes)

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[1] For a summary of the long history of AI chatbot development, see Kietzmann and Park (2024).

and has helped brainstorm completely new ideas and concepts in fields including sales, marketing, and consulting. Emerging quantitative evidence indicates that ChatGPT can significantly improve productivity in customer support work (Brynjolfsson et al., 2023) and in professional writing tasks (Noy & Zhang, 2023). Furthermore, Gilardi et al. (2023) showed that ChatGPT can outperform human workers in routine knowledge tasks, such as text annotation. Several studies have suggested that ChatGPT can be particularly helpful to lower-skilled or low-performing workers because it can close the skills gap with the help of AI (Brynjolfsson et al., 2023; Noy & Zhang, 2023). This finding is coupled with the assessment that ChatGPT especially impacts higher-income and higher-education-aligned occupations (Eloundou et al., 2023). Overall, the evidence on affordances provided by ChatGPT highlights the major potential to create novel content and ideas, augment human creativity through a wider knowledge base, and improve the productivity of mundane and repetitive tasks. Collectively, we call these benefits the *creational affordances* of GenAI, including traditional notions of creativity (in producing novel outputs), while also automating routine aspects of work (i.e., producing a variety of useful outputs).

Conversational affordances have been studied relatively little in the context of GenAI. However, there is a greater understanding of previous-generation AI chatbots and their relationships with users. For instance, Gkinko and Elbanna (2023) found that some users viewed chatbots merely as search tools, while others adopted them as virtual personal assistants. Moreover, Adam et al. (2021) found that *anthropomorphism* (i.e., adding human-like features to AI) and consistency increased users' likelihood of engaging with chatbots. Hu and Lu (2021) also found that users have differential perceptions of the humanness-related factors of conversational AI systems, while Grimes et al. (2021) demonstrated that when users believe they are engaging with humans rather than chatbots, their expectations for interactions are higher. We are now witnessing how the new breed of chatbots like ChatGPT are changing these conversational affordances and potential constraints into a radically new configuration. In an intuitive—even cunning—way, chatbots are now able to engage with users and provide them with unprecedented feelings of encouragement, inspiration, and satisfaction.

4. Leveraging the creational and conversational affordances of ChatGPT

Although the use cases and practices around ChatGPT are still emerging, several creational and conversational affordances are present across multiple industry and company settings (see Table 1). In Section 4.1., we outline these key affordances that are available for multiple types of productive purposes and supercharge how the new breed of chatbots augment (i.e., complement or involve synergies with) and automate (i.e., replace or take place of) human efforts. We use industry-specific aliases (e.g., Software Consultancy A, Advertising Agency A, and Business Law Firm A) to provide illustrative quotes and examples from professionals working in creative and knowledge industries.

4.1. Creational affordances

4.1.1. Content creation and enhancement

Creating new content is the revolutionary feature of GenAI systems in general, and when ChatGPT was introduced, it was this affordance that caught everyone off guard. The major benefit is the scalability of new content creation for both routine work (e.g., creating legal contracts and providing software coding snippets) and creative work (e.g., creating new ad slogans and design sketches). The generative nature of content creation is true to the broader understanding of generativity (i.e., the ability of a system to come up with unbounded combinatorial innovations; Thomas & Tee, 2022). The new breed of chatbots will unlock the creative side of content creation at scale, releasing the previous constraints that limited the amount of high-quality content.

GenAI systems typically excel at summarizing and modifying content. There is often a lot of textual or visual content in different formats that can be edited, modified, or summarized which improves the overall quality of the content. ChatGPT helps digest and synthesize large amounts of text by extracting key insights and effectively presenting information. As an interesting use case, a vice president from a software consultancy used ChatGPT to summarize all the blog posts he had written in the past, providing a useful overview of the key knowledge base and arguments that had been built previously. In sum, ChatGPT not only helps to create new but also helps to improve existing text.

Table 1.   Creational and conversational affordances of ChatGPT

Aggregate dimensions	Main themes	Detailed categories
Creational affordances: Complementing human creativity and productivity with AI-generated outputs	Content creation and enhancement	• Creating new content • Summarizing and modifying content
	Knowledge acquisition and creativity augmentation	• Knowledge base acquisition • Creative search facilitation
	Task automation	• Accelerating knowledge work • Elimination of unnecessary work
Conversational affordances: Fluent, continuous, and cumulative chat-like human-machine interaction in natural language	Contextual sensitivity	• Maintaining conversational context • User-driven fine-tuning
	Interactive engagement	• Improved responsiveness • Inclusive and user-friendly interface • Pervasive adoption
	Human-AI workflow synergy	• Acting as a sparring partner • Emergent team roles

4.1.2. Knowledge acquisition and creativity augmentation

Knowledge base acquisition is a feature that we found to supercharge the learning process for many professionals. A substantial number of interviewees viewed ChatGPT as a de facto replacement for Google Search, allowing users to effortlessly access and integrate information across diverse domains present in the training database. Furthermore, many professionals found it useful to synthesize long and complicated texts from new domains, quickly capturing the key learnings and arguments for easy entry into a new area. As such, chatbots helping to translate and summarize materials can act as personal learning tutors or coaches, accelerating and augmenting professionals' learning.

Creative search facilitation is a new affordance in which the search function not only returns a list of resources—like in Google Search—but also a list of converged and synthesized ideas and perspectives. ChatGPT acts as a catalyst for augmenting human creativity and plays the role of an idea generator in the content creation process, thus helping users overcome challenges such as writer's block or the blank page syndrome and providing a starting point for users' creativity. In essence, ChatGPT acts as a creative search engine that supports the initiation and augmentation of users' creative search for ideas. The CEO at Creative Agency E called ChatGPT "a very hard-working idea generator next to you, giving ideas." Several interviewees agreed that the connection between human ingenuity and the generative capabilities of ChatGPT boosts their thought processes and enhances their overall creative output.

4.1.3. Task automation

Accelerating knowledge work relates to the holy grail of AI development: the ability to mimic and replace human intelligence. Although the previous generation of chatbots could automate some amount of routine work, the new and improved content creation abilities of ChatGPT further accelerate knowledge work. ChatGPT allows for more work to be done in less time, thereby allowing users to allocate their time to solve complex problems instead of easy routine ones, or for companies to grow their businesses without adding more workers. Many users noticed that they could get a head start for a variety of tasks by having ChatGPT generate base material so that they could tailor more specific or advanced content. Ideally, by automating some knowledge work tasks, there is more time and capacity for higher productivity inputs.

> If I look at some of the experiments I did, for example, I tried to create 30-page course material. Normally, it takes about 3 or 4 days of work to get that sort of thing out. I was also able to create decent course material in about 3 hours using ChatGPT. So, the efficiency you could get out of this is very good. (Digital Training Provider A, Digital Skills Specialist)

The elimination of unnecessary work is a major promise in making the lives of white-collar workers

better. There are many repetitive and arduous tasks that knowledge workers tend to despise, so getting help in this aspect improves productivity and boosts work quality. ChatGPT helps streamline workflows and reduce manual effort by "eliminating laborious and repetitive tasks, such as spotting anomalies or similarities, from large amounts of texts and automating such tasks to some extent" (Software Company C, Chief Product Officer). Essentially, many users found that they could effectively outsource some of the most arduous tasks that previously required significant time and mental resources to ChatGPT.

4.2. Conversational affordances

4.2.1. Contextual sensitivity

Maintaining a conversational context is something that the previous generation of chatbots could not do—to the frustration of their users and customers who received guidance from service chatbots. ChatGPT excels at understanding language intricacies and responding to queries in a manner that helps maintain a specific context for a prolonged period. With ChatGPT, the ability to perceive users' needs, intentions, tone, and semantic meanings is far superior to that of previous chatbots. This allows the model to tailor its responses to reflect the desired tone or level of detail, thereby personalizing the conversational experience. Furthermore, the increased input token limit enables ChatGPT to handle larger text inputs compared with previous chatbots. All of these features improve the model's capacity to retain and remember the context, facilitate longer, turn-based conversations, and solve complex queries.

> Chatbots in the early phases of development were quite deterministic. So of course, with clever programming, one could make them feel a little bit less deterministic, but typically, they were quite deterministic, with queries with some clever designing behind the scenes. But still, they kind of gave the same kind of responses to similar questions. But [ChatGPT] doesn't feel deterministic. It actually feels quite creative. It understands what the user is asking and can quite elastically adjust tone and content when it replies. I would say that's the main difference when you compare it to any other system. (Software Consultancy C, CEO)

User-driven fine-tuning is a crucial new feature that improves and enables the contextual sensitivity of new-generation chatbots like ChatGPT. In this regard, *prompt engineering* refers to textual commands aiming to iteratively improve the outcomes of generative models by further refining the results in a particular direction (see Robertson et al., 2024). *Fine-tuning*, on the other hand, refers to the overarching sensitization of LLMs to work better in the users' context. On the one hand, while previous chatbots required proficiency in prompt engineering to produce a response, ChatGPT always produces some kind of output. On the other hand, ChatGPT requires multiple iterations, a substantial volume of inputs, and a degree of proficiency in prompt engineering to optimize the output fully according to users' needs. According to the Managing Director at Software Consultancy A, there is a reduced need for extensive prompt engineering with ChatGPT because it can generate appropriate responses with simple prompts. This contrasts with previous language models, which required formulating prompts with precise instructions to obtain optimal outputs:

> If you ask, 'Write me a poem,' it will write you the poem. You don't need to think much. In the earlier versions, you needed to be very careful, give instructions, and maybe have a look at some examples like discussion (portals) on how other people create similar prompts. (Software Consultancy A, Managing Director)

In addition, ChatGPT functions based on reinforcement learning, in which an AI system learns through trial and error and improves its performance based on fine-tuning from users. Providing feedback on the quality and relevance of responses helps extend the training data beyond the initial pretraining phase, which enables the model to provide more accurate and contextually appropriate answers. Such feedback can establish a continuous feedback loop that aids in the improvement of the model itself, which can then become even more useful. Given that ChatGPT can access online content in real-time—by tapping into a massive amount of fresh and continuously increasing data—we expect its capabilities to learn new things and give accurate answers to users to significantly improve going forward.

4.2.2. Interactive engagement

Improved responsiveness is a major conversational leap that makes chatbots work with the idea of chatting (i.e., seamlessly, intuitively, and in real-time). Previously, conversational AI tools (e.g., Siri and Google Assistant), provided rudimentary or incomplete answers. ChatGPT and the other new breed of chatbots have taken a major step forward by providing real-time responses to user queries using natural language processing, which enables

intuitive and seamless conversational experiences. This improved responsiveness to various user needs is highlighted in the following statement by an interviewee:

> They are fundamentally different. If you look at previous types of AI, they are either very crude and, half the time, they give you nonsense answers. Like, if you compare ChatGPT to Siri or Google Assistant, those were pretty good, but a lot of the time they ended up with you not getting the answer you wanted. (Digital Training Provider A, Digital Skills Specialist)

An inclusive and user-friendly interface ensures a more approachable conversational experience for people with different kinds of expertise, which is enabled by the system's ability to use natural language to communicate with users and provide useful prompts. Inclusivity and user-friendliness further increase the possibilities for people with little to no technical expertise or prior experience with AI technologies to test prompts. This eliminates the need for technical jargon and allows new types of AI power users and champions to emerge.

> The user experience is so easy that you can learn [ChatGPT] quite quickly. Now, if you have focused these past few months on learning the new thing [ChatGPT], you can talk about it quite equally with the top experts in the world, like me. I am a marketing expert by background. I am not a technology person. Yet I can now talk about these topics with anyone. (Creative Agency C, CEO)

The pervasive adoption of ChatGPT further helps to make interacting with AI an everyday task rather than a special event. Unlike proprietary systems—such as IBM Watson, which was initially limited to specific enterprise clients and involved licensing fees—ChatGPT has democratized availability to everyone. The intuitive and easy-to-use interface encourages people across various domains to effortlessly try different tasks with ChatGPT, which increases its widespread adoption. As ChatGPT becomes more prevalent, users will gain more familiarity with the conversational dynamic and learn how to effectively use the tool for specific tasks. In this vein, the chief product officer of a software company emphasized that natural language interfaces are becoming the new standard for human-computer communication—particularly for complex tasks—with ChatGPT being the first mass product to be embedded into Microsoft Office products, probably still in 2023—2024.

4.2.3. Human-AI workflow synergy

Acting as a sparring partner is a feature that upgrades ChatGPT from a simple tool to a human-AI collaborative partnership. ChatGPT engages in a back-and-forth conversation between the model and the user in an iterative, ongoing process. This back-and-forth dynamic, which was not easy to achieve with previous-generation AI systems, contributes to a new human-AI workflow synergy combining human ingenuity with machine-generated insights. The ubiquitous and 24/7 availability of conversational sparring involves major changes in the ability of professionals to iterate and improve their thinking.

> My CTO—the guy says he won't call his coding colleagues anymore when he gets stuck. He asks ChatGPT because he has prewritten which language, which version, which stack, "This is the problem I'm solving, here is the language, prompts." That's how he gets at any time of the night. He has a sparring buddy. (Small Business A, AI Evangelist & Trainer)

Emergent team roles change the way professionals position AI in their organizations and teams. Many of our interviewees tended to anthropomorphize ChatGPT by perceiving it as an actual team member. Indeed, we found that integrating ChatGPT into organizations can introduce new team roles and transform traditional work dynamics. Some professionals saw ChatGPT as a personal assistant who could assist with basic administrative tasks, creating meeting memos, responding to emails, and generating reminders. Others saw ChatGPT as playing the role of a creative worker or another specialized team member, reflecting the capabilities that AI can bring that resonate with what was previously only the human domain. Approaching ChatGPT as a new member of a team highlights the shift whereby AI is seen as a collaborator rather than a tool:

> It is a good way to describe it—that you have a new member there. You could say that in the world of marketing agencies, there is one very important team, and that is AD [advertisement] and copy. That is where the ideas and concepts start—the fairy dust that is marketing. In this new world, the most important team is humans and machines. The machine boosts the human's thinking and creativity, bringing it to a new level…[ChatGPT] creates 50 ideas (good ones), which we could never have done ourselves. (Creative Agency E, CEO)

The adoption of AI has also involved changes in human roles. For instance, beyond the obvious role of a prompt engineer, ChatGPT-generated content

requires that some individuals in an organization assume the role of content reviewers to guarantee that tailored, validated, and targeted content reaches the right stakeholders and customers. Going forward, we expect organizations of various shapes and sizes to innovate further on how they integrate chatbots into their teams and organizations. This is also a necessity if organizations want to truly harness the power of such technology in their business transformations.

4.3. ChatGPT disaffordances

Although ChatGPT provides new creational and conversational affordances, it suffers from several old and new constraints.

4.3.1. Machine learning opacity
First, machine-learning-based predictive AI was seen as an opaque, black box technology that makes it challenging to fully trace how predictions and content are generated (Berente et al., 2021; Faraj et al., 2018). The same disaffordance plagues the new GenAI systems because they are also based on deep learning and neural networks without the ability to explain or trace how they came up with a certain outcome beyond the prompt that was given to them. For instance, although ChatGPT is not perceived to be as deterministic as previous conversational AI systems, the LLM on which ChatGPT is based still suffers from black boxing of the technology, and OpenAI—the developer of ChatGPT—has done very little to explain how its LLM really works.

4.3.2. Hallucinations
Second, a well-known disaffordance of GenAI is that of *hallucination* (i.e., the tendency to come up with potentially convincing but false information; Brynjolfsson et al., 2023; Chui et al., 2022; Hannigan et al., 2024). The severity of the hallucination depends a lot on the use case. Although ChatGPT could help with a lot of content generation, the ease of content generation turns out to be a burden when information accuracy and factual aspects are pronounced. The generative nature of the new AI systems can lead to information-containing errors—and the system itself does not know whether there is an error or not. Therefore, an accumulation of errors could lead to untrustworthiness toward ChatGPT-generated content and may require critical input and verification from experts. Errors might also escalate: "Once you see this error pop up, the next sentences will have a cascading amount of these errors…if you talk with ChatGPT for long enough,

then the answers become less trustworthy, and errors tend to accumulate" (Digital Skills Specialist, Digital Training Provider A). Depending on the use case at hand, hallucination can be either a nuisance (i.e., not a big deal, like in a random ideation session of people at the office) or a life-threatening risk (e.g., large mobile machines acting on inaccurate information and injuring people while doing so).

4.3.3. Response quality
Third, although the conversational interface is a major—and revolutionary—new affordance, the inability to articulate a prompt precisely could also turn out to be a constraint. In using ChatGPT, the quality of responses is contingent on the clarity and specificity of the prompts because ambiguous or unclear queries may lead to less accurate or relevant responses. Moreover, several professionals—especially in the field of communications—have noted that ChatGPT-generated content may exhibit a degree of similarity in terms of outputs, irrespective of differences in specific input prompts. For instance, one marketing professional expected that when competing firms use ChatGPT, they might come up with 10 selling points from which "eight or seven will be identical." This means that the output must be refined and customized to align with individual needs and preferences, which mitigates the risk of generic content. Therefore, learning the craft of human-AI collaboration is critically important to achieving unique, creative, and valuable outputs from ChatGPT and similar AI systems. Merely prompting something is not enough for individuals and firms to achieve competitive and distinctive results. Rather, thoughtful prompting becomes a competence that needs to be practiced and honed to perfection to stand out from the rest.

4.3.4. Legality concerns
Finally, several professionals highlighted the confusion over the breadth and depth of ethical and legislative concerns while utilizing ChatGPT. This includes customers questioning whether they have the right to use certain images and how broad those rights are, as pointed out by one creative professional. In addition, there should be a degree of caution exercised while posting company-sensitive information into ChatGPT, and there are doubts over who could claim ownership of the machine-created content, as mentioned by the CEO of creative agency C. These concerns seem to be a major bottleneck for further proliferation of chatbots in business use. However, legislation concerning the copyright and originality of AI-created content is progressing fast, as is the diffusion of more information-secure

enterprise versions of different GenAI models. Therefore, many of the constraints and concerns that relate to GenAI today might be resolved quickly (e.g., regarding information security), while some of the disaffordances are more likely integral features of LLMs (e.g., hallucination potential) that are more difficult to fully resolve (see Hannigan et al., 2024).

5. The virtuous cycle of new generative chatbots

The creational and conversational affordances discussed in Section 4 provide unique user value when they are used together in everyday creative and knowledge work. Insights from our interviews with frontrunner professionals and companies demonstrated that there is a virtuous cycle in which affordances take place, and this virtuous cycle connects to technology-related capabilities that are specific to ChatGPT and similar AI systems. Given that previous AI tools could generate music and pictures (among other things), the creational affordances of ChatGPT are not entirely new. In addition, numerous kinds of chatbots have existed for some time. For instance, customers have been able to interact with either a machine or a human on some company web pages, which shows that the conversational elements alone are not new. However, with ChatGPT,

users can initiate new prompts, get replies, ask for improvements, receive refined replies, and so on, leading to a continuous dialogue that produces a new kind of value to the human-machine relationship. As portrayed in Figure 1, there is a *virtuous feedback loop* between conversational and creational affordances that runs in two directions and continuously feeds into one another: human inputs trigger AI outputs (the upper arrow), and AI outputs trigger new conversational interactions between the user and AI (the lower arrow).

As depicted in Figure 1, the virtuous cycle of creational and conversational affordances together represents broader, higher-order affordances we call *meta-affordances*. These meta-affordances can be defined as broader metalevel synergies that go beyond immediate, surface-level functionalities or affordances and provide a holistic understanding of how various affordances combine or influence each other to create new behaviors (see Milioni & Papa, 2022). This means that GenAI systems are not merely content generators or conversational interfaces, but they imply longer-term fundamental and even institutional changes in organizational processes and human-AI work practices. We identified three underlying meta-affordances: (1) *accessibility*, (2) *accumulation*, and (3) *adaptability*. These meta-affordances are truly revolutionary in the sense that they were not present to the same

Figure 1. Relationship between conversational, creational, and meta-affordances in the context of GenAI chatbots
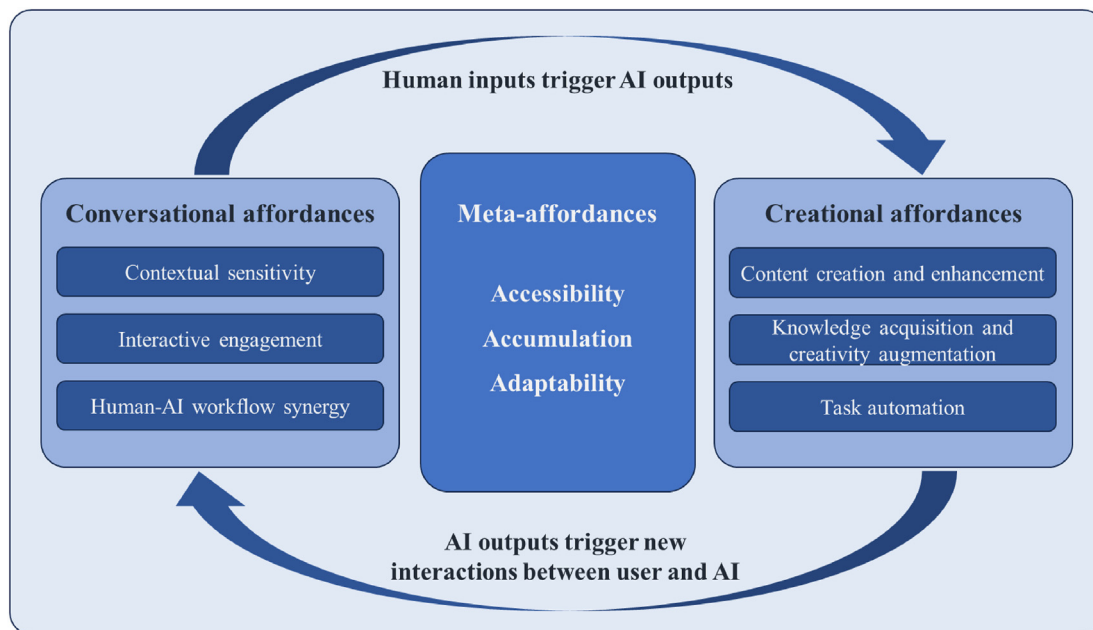
extent in the previous generation of AI technologies and chatbots. In addition, each meta-affordance contributes to reinterpreting perceived affordances (e.g., adapting the way ChatGPT interprets and generates content), revealing the inner workings of processes (e.g., accessible interfaces empower a broad range of users to understand complex topics, demystifying the inner workings of algorithms), and gaining an understanding of how user behavior changes (e.g., an accumulative knowledge base aids in understanding users' actions).

5.1. Accessibility

Accessibility refers to users' ability to conveniently access the multimodal interface with natural language and, most recently, with many other modalities, such as inserting documents and pictures (Chui et al., 2023; OpenAI, 2023). Accessibility leads to a virtuous cycle in which users are increasingly able to engage with the conversational features of AI in multiple easy-access and high-convenience ways. This accessibility triggers AI outputs, which further trigger new human interventions that lead to refined and creative outputs, and so on. In many cases, accessibility allows for flexible professional use of ChatGPT in ways that were not possible with the previous generation of chatbots. For instance, an interviewee from the legal field explained how ChatGPT can conveniently act as an extra pair of eyes in multiple steps of a process when accessing, summarizing, and interpreting legal information:

> The benefit is that you can feed a whole legal frame to ChatGPT and ask questions. It can find the correct answer in seconds instead of a human eye trying to find the correct information. (Business Consulting Firm A, Head of HR & Legal Operations)

5.2. Accumulation

Accumulation refers to the path dependency in the inputs and outputs in GenAI models, creating a de facto memory of the interactions between users and AI (Dwivedi et al., 2023; Edelman & Abraham, 2023). This functionality of ChatGPT enables content creation that gradually builds on the previous prompts and improves and iterates in the direction desired by users. As insights and outputs accumulate, the relative benefits and usefulness of outcomes increase. This feature in the new GenAI systems represents a major leap from the previous generation of chatbots. Chatbots based on decision trees could not accumulate improved results

because they provided predefined answers to specific prompts. Conversely, ChatGPT has provided major creational and conversational affordances that accumulate in value over iterative discussions. One interviewee working in the advertising sector highlighted the iterative process of improving input prompts, combined with the possibility of remembering the conversation, which could lead to improved outputs.

> You just start asking it some trivial things to test it, but then, I realized that you could ask for a certain style of text or the form of output or anything, practically, and then the outputs would improve. And the iteration is another thing when you could grasp that it remembers the conversation for quite some time, so it, of course, changes how you approach the conversation or what you try to get first and then ask it to fix it. (Advertising Agency B, Digital Strategy & Planning Leader)

5.3. Adaptability

Adaptability means that users can adapt the outputs of ChatGPT beyond the previously discussed short-term memory function. ChatGPT can adapt as a tool over time as users' preferences and practices evolve. In fact, with ChatGPT and other enterprise GPT models, there are possibilities to sensitize or pretrain models with users' preferences or with organization-specific data, which will further improve the adaptability of AI capabilities to specific use cases and contexts (Bouschery et al., 2023; Chui et al., 2023). Adaptability is crucial for creative and knowledge industries because it helps improve the contextual fit of AI tools to a specific work task or environment. For instance, we have seen companies crowdsource the training of the enterprise GPT model according to the company's specific language, culture, and writing style to democratize and improve the use of ChatGPT across employees.

> I thought, to democratize this, let's make it conversational because then I have to make sure that this enterprise account and 100 people using it at the same time are retraining the bot or the LLM about our language, our culture, our writing style, and improving it. It's like crowdsourcing the training part through conversation. I can fast-track the learning part of it through 100 people telling it to do this and do that and correcting what is not right. (Software Consultancy D, Digital Director)

6. Taking advantage: How can organizations reap the full potential of ChatGPT and GenAI chatbots?

The emergence of ChatGPT and other similar GenAI tools marks the first time in human history that machines are becoming similar to human peers in various work tasks and offering practical, human-like, productivity-enhancing, and complementary benefits in multiple contexts. Despite AI systems being far from perfect, they can help us become better versions of ourselves in performing our daily tasks.

ChatGPT and other GenAI systems represent a new paradigm of AI. Although creational and conversational dimensions have been incrementally introduced to users over the past few decades of AI development, the combination of the two is what has made the introduction of new systems so notable. We argue that the literature on AI—human collaboration (Jarrahi, 2018; Sundberg & Holmström, 2023), chatbots (Adam et al., 2021), and AI as black box technology (Berente et al., 2021) will remain helpful in explaining what the new AI is and what its constraints are. At the same time, with the introduction of new affordances (see Retkowsky et al., 2024), we expect users to change their routines (Leonardi, 2011) to align themselves with the new technology as they become active overseers and modifiers of the technology.

From a practitioner's perspective, our findings call for both experimentation with and strategic consideration of creational and conversational AI. We recommend that professionals and companies implement the following seven steps and practices to capitalize on ChatGPT and other new AI systems, as outlined in Sections 6.1.—6.7.

6.1. Embrace creational affordances

Do not be satisfied with just producing novel information or fine-tuning your creative work. Go beyond the obvious and truly look for new counterintuitive ideas and transformative ways of doing business because that is what the generative and creative power of ChatGPT is all about. Try prompting the system in many different ways and see how its answers change. Evaluate which types of answers bring the most promising input to your creative work, save those creations for later use, and then ask for more ideas in new ways. ChatGPT can complement the innovative potential of human imagination and vice versa—the combination of the two can be a source of an unprecedented number of innovative and valuable ideas and openings.

6.2. Embrace conversational affordances

Instead of using ChatGPT as a traditional search engine or replacing Google, learn the tips and tricks of prompting it and nudging it to give you more sophisticated inputs. Talk with it, not to it. Remember that it remembers. Ask it to take its ideas further or twist ideas in new directions after the initial response is in place. Do this over and over again. Furthermore, identify various use cases in your operations (e.g., sales, marketing, customer service, product development) in which the conversational nature of interactions is already being used or could be beneficial, and then take the GenAI tools there.

6.3. Embrace the interplay

Given the opportunity to generate new content and have conversations with ChatGPT, how can these two capabilities, when combined, create the most value? For instance, can you create virtuous cycles in which the generation of new ideas and conversations of such ideas lead to continuous iteration and improvement? What are the use cases in which both new content creation and continuous dialogue are needed? Could you, for example, ideate new marketing and sales strategies, business plans, product features, or better ways to communicate critical information to your customers? How can these two capabilities of ChatGPT benefit your customers, your partners, and your employees? These are a few questions organizations can ask to maximize value.

6.4. Stay up to date

Given that ChatGPT and other GenAI tools evolve quickly and constantly, prepare for a continuous rethinking of what is possible and desirable. Read books and online articles, listen to webinars and podcasts, visit companies that already use ChatGPT extensively, and so on. Importantly, test the new features of ChatGPT and other GenAI tools as they appear—some of those features will likely become useful in your work or for your company. Always look for new ways of harnessing creational and conversational affordances, whether in terms of their coverage and sophistication or their applicability to different processes and practices in your organization.

6.5. Understand what not to do going forward

Given the new capabilities, what are the tasks that should no longer be done manually? In which tasks can time be freed up? Once that time is available, which tasks involving human excellence should you strengthen and focus on going forward? Review tasks in customer service, sales, and marketing, as well as research and development (R&D), to see whether there is repetitive, time-consuming work that can be either optimized, automated, or renewed with ChatGPT. Ideally, a lot of human capacity can be unleashed for more creative and high-value-adding tasks that benefit most from human intelligence and presence.

6.6. Scale up

Given that ChatGPT is beneficial in so many different tasks, make sure that it is not only you who fully uses its affordances but also the rest of your organization. Only by systematically scaling up the usage of these affordances can you achieve an impact that moves the needle in your company. By using training and information sessions, ensure that there is widespread know-how and understanding of what is possible, as well as what kind of usage is desirable in your organization to improve productivity and output quality. Collaborate with your colleagues to develop a roadmap for the changes needed in your workforce, team structures, workflows, and work practices.

6.7. Make it strategic

Move toward a state in which AI becomes part of your strategic edge and competitive advantage. To make the creational and conversational affordances truly useful, embed them in your core operations, key value drivers, and business models, if possible. Given these new powerful capabilities at hand, consider which business you are truly in and how to distinguish yourself from competitors with your particular AI-driven strategy (see Ruokonen & Ritala, 2023). Discuss these topics with the company board and the management team in a critical but constructive manner. Ensure that you also cover disruptive and radical new ideas and go beyond the obvious when it comes to ChatGPT implementation. At a minimum, make sure that your company does not risk lagging behind your peers.

7. Conclusion

To conclude, we hope that our article provides academics and managers with useful thought structures, frameworks, and examples to better understand the new creational and conversational capabilities of AI, paving the way for further research and their full implementation in practical company settings.

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