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Beyond the pandemic, organizations need to recognize what digital assets, interactions, and communication processes reap the most benefits from virtual reality.

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Six Reasons Why Virtual Reality Is a Game-Changing Computing and Communication Platform for Organizations

THE COVID-19 PANDEMIC created unprecedented disruptions to businesses, forcing them to take their activities into the virtual sphere. At the same time, the limitations of remote working tools have become painfully obvious, especially in terms of sustaining task-related focus, creativity, innovation, and

social relations. Some researchers are predicting that the lack of face-to-face communication may lead to decreased economic growth and significant productivity pitfalls in many organizations for years to come.¹³

As the length and lasting effects of the COVID-19 pandemic cannot be reliably estimated, organizations will likely face mounting challenges in the ways they handle remote work practices. Therefore, it is important for organizations to examine which solutions provide the most value in these exceptional times. In this article, we propose virtual reality (VR) as a critical, novel technology that can transform how organizations conduct their operations.

VR technology provides “the effect of immersion in an interactive, three-dimensional, computer-generated environment in which virtual objects have spatial presence.”⁵ VR’s unique potential to foster human cognitive functions (that is, the ability to acquire and pro-

cess information, focus attention, and perform tasks) in simulated environments has been known for decades.^{6,8,32} VR has, thus, long held promise for transforming how we work.³³

Earlier organizational experiments with desktop-based virtual worlds (VWs)—3D worlds that are used via 2D displays—have mostly failed to attract participation and engagement.^{34,37} Increasing sensory immersion has been identified as necessary for mitigating these problems in the future.¹⁸ Therefore, sensory immersion in VR through the use of head-mounted displays (HMDs) can be seen as a significant step forward for organizations transferring their activities to virtual environments. In this regard, VR is now starting to fulfill the expectations that were placed upon VWs in the past decades, as per Benford et al, for instance.⁴

However, VR has only recently matured to a stage where it can truly be

said to have significant potential for wider organizational use.¹⁷ In 2015, Facebook founder and CEO Mark Zuckerberg described VR as “the next major computing and communication platform.”³⁸ Although VR has received this kind of significant commercial attention, its potential in organizational use remains largely scattered or unexplored in the extant scientific literature.

Drawing on contemporary research and practice-driven insights, this article provides six reasons why VR is a fundamentally unique and transformative computing and communication platform that extends the ways organizations use, process, and communicate information. We relate the first three reasons with VR as a computing platform and its potential to foster organizations’ knowledge management processes and the last three reasons with VR as a communication platform and its potential to foster organizations’ remote communication processes.

VR as a Computing Platform: Transformative Knowledge Management

VR can be used to simulate many organizational activities, depending on an organization’s goals and demands. However, VR can also be seen as a transformative knowledge manage-

» key insights

- VR can solve many critical bottlenecks of conventional remote work while also enabling completely new business opportunities.
- VR enables novel knowledge-management practices for organizations via enriched data and information, immersive workflows, and integration with appropriate IS and other emerging technologies.
- VR enables high-performing remote communication and collaboration by simulating or transforming organizational communication, in which altered group dynamics and AI agents can also play an interesting role.

ment system because it provides new ways to manage and enrich information and workflows, and it has significant potential as a platform for integrating other information systems (IS) and emerging technologies. Next, we articulate three reasons why VR is a game-changing computing platform.

Reason 1: Enriched data and information

The current methods for examining complex information via 2D displays impose obvious limitations on the presentation of information to users. For example, it is difficult for users to understand how a certain room layout might fit with their work tasks purely from architectural 2D drawings.¹⁷ VR tackles this problem by enabling enhanced spatial understanding of 3D content and data when compared to traditional 2D displays.^{6,27} In VR, users can examine immersive 3D content spatially from multiple perspectives, such as birds-eye view or 1:1 scale).

In general, the ability to view 3D content in an immersive 3D environment is a powerful tool for fostering users' understanding of complex issues and scenarios.⁸ Users can immerse themselves in the virtual content, which can be anything from the molecular structure of a medicine or the design of a movie scene.¹² In comparison with 2D displays, the information in VR is perceived to be more real and explicit and, thus, less abstract and ambiguous. This has far-reaching consequences for many organizations across different fields.³³

VR technology is also highly adaptable, allowing different layers of information about the same content to be shown according to users' needs or preferences.³⁵ For example, in a virtual building, an architect can work with a different layer of information than a construction engineer or a potential customer. Ideally, this requires the addition of relevant metadata to the digital content to present it to various stakeholders automatically and efficiently on the basis of user profiles. If needed, adaptations in VR can further be based on natural and intuitive user behaviors, such as gaze or body movements.³³ As individuals are able to immerse themselves in data and information, and increase their contextual cognitive func-

tions, VR adaptability has the potential for organizations to foster stakeholder engagement and participation.

Information can also be stored, organized, and retrieved spatially in VR. Spatial awareness (for instance, viewing the world in 3D) has long been used to enhance our information-recall skills. For example, multiple 2D displays, such as virtual desktops or whiteboards, can be positioned to a virtual space in an organized manner to display vast amounts of information.¹⁹ Thus, users, especially in knowledge-intensive work, can personalize their own spatial information management system and increase their productivity through better recall of relevant information.

Reason 2: Immersive workflows and training

Many work activities are still bound to a specific physical space, which can be especially inefficient when large amounts of complex information and multiple stakeholders are involved. Moreover, many organizations still rely on labor-intensive business processes that do not scale efficiently, such as building expensive physical prototypes during product design. For example, if a physical miniature model of a building or a vehicle is created, it can be only displayed at a certain location and at previously agreed-upon times. VR provides an ideal platform for scaling up many of these activities by enabling an organization's stakeholders to manipulate different digital assets directly in VR from anywhere in the world in a shared immersive environment. For example, existing physical assets can be replicated in VR as digital twins to support many different use cases and workflows relating to product development or training.¹⁵

VR's most obvious use cases have long been in different training scenarios, for example, for fire safety or surgeries.³³ These use cases undoubtedly have benefits, especially when substituting activities that are extremely dangerous or expensive.¹⁵ VR provides a major advantage for virtual workflows and training because, in addition to the benefits of enriched data and information, users can have intuitive and natural interactions with the digital content. Mounting evidence over the past three

decades shows that when the VR system realistically responds to the user's actions, the user is likely to react and interact realistically as well.^{32,33} Furthermore, as users perceive training in VR as real, the benefits of VR apply not only in the practice of hard but also soft skills, such as customer engagement or public speaking.³ Therefore, acquiring professional skills and knowledge via the use of VR holds exceptional potential when compared to many conventional IT technologies.

However, VR is not limited to experiences that imitate our real-world expectations. It can also simulate impossible interactions, such as teleportation and moving heavy objects without gravity. VR can, thus, be used to create experiences that are "better than reality,"²¹ based on the desired organizational effect. Organizations can further improve performance by enhancing the user-flow experience and motivation to efficiently perform tasks by gamifying features of VR and aspects of work routines. The user's performance and progression in, for example, different training scenarios can be tracked and verified automatically as in many games. In the context of workflows, for instance, relevant changes in a virtual building can be presented to users with navigation and distance markers or with estimations about changes in costs and the construction schedule.

Another advantage of VR is that it becomes a living 3D document and a version-control system that is modified by user interactions. The information can persist in the virtual environment as long as needed. VR content can be made available anywhere in the world at all times, which enables far more iterative collaboration and knowledge transfer within projects.¹⁷ Users can also return to the digital assets even years after they were last used if they, for example, need to learn how some earlier design challenge was solved. The superior spatial recall of information in VR can further increase user efficiency in these work tasks.¹⁹

Reason 3: Increasing synergies with other emerging technologies and organizational IS

Fluent information transfer between an organization's IS and its stakeholders is critical to the organization's success. Taking into account VR's

capability to enrich information and workflows, using VR as a platform for integrating existing IS comes with many interesting synergies.

For example, architecture, engineering, and construction (AEC) professionals use building information modeling (BIM) as a process to manage all information relating to construction projects. BIM consists not only of the physical 3D characteristics of buildings and infrastructure but also vast amounts of other information, such as construction times, costs, energy performance, and safety aspects. Exporting complex 3D assets, such as BIM, to VR was earlier a limitation in many organizational settings, but the latest VR software has tackled many of these challenges, even enabling live editing of 3D models in VR.²³ As VR can host complex 3D information in an immersive and interactive fashion, integrating organizational digital content, such as BIM, with VR can foster the effectiveness of organizational decision-making and virtual workflows.

It is also important to ensure that the information processed in VR is transferred in the other direction as well (that is, back to relevant IS or software). For example, when a client makes a purchase decision in VR, this information should be directly imported to the customer relationship management (CRM) and enterprise resource planning (ERP) systems. This also eliminates the need to manually edit the assets outside of VR, which reduces mistakes and redundant work. Ideally, the feedback that is given in VR should also provide immediately actionable tasks in other systems. For instance, 3D model annotations in VR should translate to tasks in the design software.

VR has countless technological synergies with other rapidly evolving technologies, such as artificial intelligence (AI), blockchain, and robotics. High immersion, interactivity, and user engagement in VR leverage and compound the organizational potential of these other emerging technologies. For example, AI-supported data visualizations can be brought into VR to help decision-makers steer organizational actions according to different trends and scenarios. The use of digital voice agents (DVAs), such as Google

Virtual reality as a critical, novel technology that can transform how organizations conduct their operations.

Assistant or Microsoft's Cortana, can help users complete different routine tasks in VR. Additionally, blockchain holds potential for fostering secure ownership and transfer of digital assets in VR. 5G networks enable VR to be used as an immersive interface for robotic teleoperations where, for example, the user's body motions can help achieve utmost accuracy.²¹ The possibilities are practically endless; in the future, advancements in brain-computer interfaces (BCIs) provide fascinating possibilities where the use of VR could be, at least partly, controlled by brain signals.^{21,22,33}

VR as a Communication Platform: High-Performing Remote Communication

Every meaningful action in an organization, such as knowledge creation or decision-making, tends to depend on the success of communication and information transfer.⁷ Therefore, the content in VR with the most potential is other people. Implementing communication features even in the simplest use cases, such as a virtual sales meeting in VR, can significantly leverage their potential. Accordingly, when communication features are integrated in more complex use cases, such as industrial design, their potential benefits continue to grow. When VR is used as a communication platform, it can be referred to as social virtual reality (SVR).

Next, we extend our analysis with three reasons why VR is a game-changing communication platform. Specifically, we describe how SVR enables multi-user social interaction that simulates real-life communication and extends it to new forms of remote work.

Reason 4: Every communication process can be simulated

A lack of face-to-face communication deteriorates the richness of communication in organizations. Deriving the most out of current communication tools can mitigate this problem but not fix it. In general, discussions, dialogue, and problem-solving benefit from synchronous communication (for example, video conferencing), whereas the transfer of a large amount of diverse and new information tends to benefit from asynchronous communication (for instance, email).⁹

SVR supports both of these fundamental communication processes—synchronous and asynchronous—in an intuitive and natural manner. Most importantly, SVR can simulate and extend face-to-face communication in a spatial setting. For example, 3D models can be loaded for discussion and dialogue, which fosters users' shared sense-making and understanding of how others interpret the available information. In contrast, text- or voice-based annotations provide an important feedback mechanism, where users are able to guide, assist, or exchange ideas more elaborately without time constraints. Annotations that are placed directly on 3D objects also maintain the context in communication. Ideally, SVR substitutes many different communication channels by merging them into one. Instead of a plethora of email discussions or video conferencing sessions, every detail from, for example, a product design pipeline, can be discussed and commented on in SVR.

SVR that includes tools for presentations and brainstorming, such as file sharing, whiteboards, and sticky notes, extends a physical meeting room to a virtual sphere. Avatar-based interaction, natural 3D space, and spatial sound enable multiple real-time discussions, where participants interact and communicate spatially as opposed to looking at each other on a monitor. In general, authentic spatial collaboration significantly enhances an individual's acquisition of professional skills, because it allows them to observe how others behave and operate.⁸ Thus, connecting spatial communication with task-related content can make VR an ideal platform for collaboration and learning. One of the biggest advantages of SVR is also that the context of communication can be filtered to precisely fit the task at hand, excluding any outside distractions³⁵. Due to the sensory immersion provided by HMDs, the task-related focus can be strictly controlled and maintained in SVR.

Theoretically, SVR can facilitate every communication process imaginable and, thus, potentially exceed communication effectiveness compared to real-world settings. For example, one can follow a live keynote presentation, rewind to watch parts of it again, and then catch up with others, just like

Current methods for examining complex information via 2D displays impose obvious limitations on the presentation of information to users.

pressing fast-forward on a television set¹. Additionally, SVR provides communication tools that are not available in the real world, such as a laser pointer coming out directly from an avatar's fingertip. As another example, avatar profiles as “floating billboards”¹ can disclose a participant's name, role in the organization, competencies, or other relevant information that we sometimes fail to remember about our colleagues. Perhaps disclosing personal interests in avatar profiles would generate informal social bonding that is otherwise difficult to achieve remotely.

Informal communication is something that organizations struggle to maintain in remote work. It is well known that informality is critical in terms of networking and generating innovations and new ideas. Some top executives are worried that extensive remote work during the COVID-19 pandemic will lead to a decrease in informality.²⁵ SVR provides an especially promising position for tackling this issue with informal virtual spaces, which can be just like a virtual version of a company's physical break room, characterized by the richness of communication and lack of formal rules, roles, and timetables. Informal virtual spaces can be used anytime, anywhere, without disrupting formal work processes.¹¹ Similarly, SVR can also facilitate social networking and maintaining work-related social relations at virtual events.¹⁰

Reason 5: Transformed group dynamics

Organizational group dynamics, such as trust development, are extremely difficult to manage in conventional remote work.²⁹ However, one of the novelties of avatar-based communication in SVR is its ability to facilitate many fundamental conscious and subconscious social interactions in a spatial setting. Avatar-based communication mimics the sensation of participants being with distant others physically. Just like physical bodies, avatars are both communicative tools and display systems. We communicate via avatars and our behavior allows others to sense and predict our emotions and intentions. Research shows that this behavior is largely automatic.² Today, much of this behavior—posture, interpersonal distance, gaze, and facial move-

ments—can be tracked and displayed in VR, which opens up interesting business possibilities (and data privacy issues) for exploiting the user's behavioral or even biometric¹⁶ data in VR.²

Of course, current SVR technology is often based on cartoonish avatars that are not yet able to display fully realistic body language or facial expressions. However, even the most basic forms of nonverbal communication, such as the gaze, can have a significant effect on communication performance. For example, the gaze communicates points of interest and, thus, fosters turn-taking and dialogue.¹ Recent advances in VR-related tracking technologies suggest that the avatar gaze, just like realistic avatar hand and facial movements, will soon be a standard feature of SVR.¹⁶ Developments in these tracking technologies are critical because they affect the avatar's behavioral realism and the user's nonverbal communication performance.

It is well known that collaboration performance in remote work is built on strong interpersonal trust. However, conventional remote communication tools have raised different trust-building issues due to individuals' inability to physically and spatially observe how others behave and operate.²⁹ Although SVR does not yet offer fully realistic social simulation, it already holds tremendous potential for enhancing different trust-building mechanisms. As different formal and informal activities are increasingly integrated into SVR, users are able to learn more from others' skills and personalities and build shared experiences that are comparable to the ones from the physical world. Interestingly, a brain imaging study shows that the trust-building process in avatar-based communication is quite similar to that in face-to-face communication, except that real facial information works better when forming initial trust (that is, trust between strangers or acquaintances).²⁸ There is already commercial interest in building photorealistic avatars for VR, and they are expected to arrive in the coming years.³⁰

Recent studies also suggest that reciprocal communication and behavioral realism seem to mitigate the uncanny valley—the “eerie sensation” users get when viewing almost, but not perfectly, photorealistic artificial

faces.³¹ This development can have interesting implications for the adoption of SVR in a highly formal work context, such as business meetings. But for now, why not satisfy our natural tendency to trust real human faces by embedding video conferencing into SVR?

However, SVR also allows users to display an altered version of themselves by customizing their avatars. Avatar customization is not just a novelty issue or something that connects only with consumer VR and entertainment. It is a powerful tool for nonverbal communication and online identity management. Studies show that avatar characteristics may have psychological and behavioral implications—a phenomenon known as the Proteus effect.³⁶ For example, Yee et al³⁶ show that taller avatars performed better in a negotiation task and attractive avatars disclosed more personal information. Further, the avatar's nonverbal behavior can be modified, filtered, or automated to not display the user's actual nonverbal behavior.¹ For example, an artificial smile (that is, an avatar's smile that is enhanced with algorithms) can leave everyone in a better mood after a virtual conferencing session.²⁶ How the Proteus effect and nonverbal modifications can transform group dynamics and information transfer in SVR holds much promise for future remote work.

Reason 6: AI agents as organizational actors

A vast amount of relevant information gets lost in organizational communication due to our limited information-processing capabilities.⁷ However, introducing AI avatars—or agents—into SVR allows completely new forms of collaboration and information-sharing practices for organizations. Technology's “human-likeness” can affect how individuals interact with and form attitudes toward technology. Thus, if a technological entity looks and acts like a human, it is more likely to be perceived as, for example, “competent” instead of “functional.”²⁰

A variety of AI capabilities that mimic the human mind (for example, reasoning, object and speech recognition, and a dialogue system) can be attached to agents, and these capabilities can be expanded further with, for example, big data analytics.^{14,24} Especially in

knowledge-intensive work, agents can take an interesting position in different knowledge-creation and decision-making activities when an organization's stakeholders interact with each other and agents. In SVR, interactive agents can be available at all times, and their communication and information-sharing capabilities will increase in parallel with different AI developments.

Of course, agents could conduct different routine or assistive tasks comparable with the use of current chat bots or DVAs. However, unlike conventional AI, agents are also perceived as physical entities. For example, agents can physically navigate users through a virtual event or illustrate how to perform various organizational tasks, such as machine maintenance. Some training activities, for example, could be scripted using activities performed by real human users, tackling some issues with scalable content creation. Furthermore, one especially interesting domain for agents is sales and marketing. Agents can represent organizations in the digital realm in a scalable manner. Even an agent's nonverbals can soon be simulated according to the potential client's cultural background and preferences. If needed, a human user can be summoned to replace the AI. For example, when a customer wants more detailed information in a sales situation, the right salesperson with proper language preferences can take control of the AI's avatar.

The potential of agents as organizational actors probably increases with their behavioral realism. Some scholars describe a future where agents display increasingly human-like behavior, such as being able to mimic our nonverbal cues and emotions.^{22,31} For example, agents might be able to detect our emotions from our voice pitch and facial information (our facial movements can already be tracked in VR). Agents could also create believable reciprocal communication patterns, and communication with agents could, thus, become nearly indistinguishable from human-to-human communication.²² As a practical example, see the Seymour et al³¹ study that presents Baby X, a computer-controlled agent.

Conclusion and Implications

VR is finally reaching a point in its development where it can be widely used

Table 1. VR as a computing platform—key implications for organizations.

Key aspect of VR	Potential organizational benefits	Key actions for realizing the benefits of VR
1. Enriched data and information	<ul style="list-style-type: none"> ▶ Enhanced organizational knowledge creation and decision-making ▶ Reduced misunderstandings and uncertainty ▶ Increased stakeholder engagement ▶ Enhanced stakeholder understanding and recall of complex or domain-specific information 	<p>Content creation for VR</p> <ul style="list-style-type: none"> ▶ Discover existing and novel forms of digital assets that could benefit from being viewed, stored, organized, and retrieved in VR ▶ Adapt content in VR according to stakeholder needs and preferences <p>Capacity-building for VR</p> <ul style="list-style-type: none"> ▶ Map out and create awareness for an organization's stakeholders who could benefit from the use of VR ▶ Develop capabilities for novel knowledge-management practices required in VR
2. Immersive workflows and training	<ul style="list-style-type: none"> ▶ Workflows and training with unrestricted participation and interactions ▶ Enhanced acquisition of professional skills and knowledge ▶ Highly iterative and effective collaboration and knowledge transfer ▶ Enhanced user-flow experience and motivation to perform tasks efficiently 	<p>Workflow creation for VR</p> <ul style="list-style-type: none"> ▶ Discover existing and novel workflows that benefit from VR-enriched data and information and have a sense of natural interactions in a spatial setting ▶ Enable persistent content for iterative workflows and project management <p>Implementation of training and simulations in VR</p> <ul style="list-style-type: none"> ▶ Prioritize training or simulation scenarios that would be impossible, dangerous, or costly to perform in real life ▶ Introduce VR in both hard- and soft-skills training ▶ Enrich training and simulation scenarios with playful and gamified elements
3. Increasing synergies with other IS and emerging technologies	<ul style="list-style-type: none"> ▶ Fluent information transfer between different IS and the organization's stakeholders ▶ Compounding the benefits of various emerging technologies by leveraging the immersive and interactive nature of VR ▶ Novel business opportunities and use cases when VR is integrated with other emerging technologies 	<p>Integration of IS with VR</p> <ul style="list-style-type: none"> ▶ Enable essential information flows about the organization and users between existing organizational IS and VR ▶ Enrich real-time organizational data and information via VR <p>Integration of emerging technologies with VR</p> <ul style="list-style-type: none"> ▶ Identify synergies between emerging technologies and organizational data, information, and workflows ▶ Incrementally introduce VR solutions that exploit the technological development of emerging technologies

Table 2. VR as a communication platform—key implications for organizations.

Key aspect of VR	Potential organizational benefits	Key actions for realizing the benefits of VR
4. Every communication process can be simulated	<ul style="list-style-type: none"> ▶ High-performing remote communication and collaboration ▶ Enhanced dialogue and shared understanding ▶ Enhanced transfer of context-bound data and information ▶ Possibility to control the task-related focus ▶ Remote, casual interactions and networking 	<p>Facilitation of interpersonal communication in VR</p> <ul style="list-style-type: none"> ▶ Introduce real-time, avatar-based interaction ▶ Enable the use of customized avatar profiles with individualizing information ▶ Enable new ways of avatar-based interaction that are not possible in the real world <p>Facilitation of formal and informal meetings and events in VR</p> <ul style="list-style-type: none"> ▶ Integrate task-related communication tools into VR environment ▶ Filter the context of communication according to tasks ▶ Exploit the use of avatar profiles in networking ▶ Build content and interactions for informal bonding
5. Transformed group dynamics	<ul style="list-style-type: none"> ▶ New forms of online group dynamics and social bonding ▶ Novel trust-building mechanisms in a shared spatial setting ▶ Enhanced online identity management with potential behavioral implications 	<p>Creation of realistic avatars in VR</p> <ul style="list-style-type: none"> ▶ Increase avatars' behavioral realism via advanced tracking technologies, such as eye, face, and body tracking ▶ Increase avatars' photorealism for communication processes that are highly formal or emphasize trust-building between unacquainted individuals <p>Introduction of nonverbal avatar enhancements in VR</p> <ul style="list-style-type: none"> ▶ Enable rich avatar customization as an online identity management system and to exploit the Proteus effect ▶ Build algorithms that modify, filter, or automate a user's nonverbal expressions and gestures in VR
6. AI agents as organizational actors	<ul style="list-style-type: none"> ▶ Novel remote collaboration and knowledge-creation practices ▶ Agent-supported training and tutoring ▶ Agents as scalable organizational actors and physical entities in the digital realm 	<p>Creation of agents to support knowledge-intensive work in VR</p> <ul style="list-style-type: none"> ▶ Build agents that provide information and support in repetitive or routine tasks ▶ Build agents with advanced AI capabilities that provide support in problem-solving and decision-making activities <p>Creation of agents as physical entities in VR</p> <ul style="list-style-type: none"> ▶ Build reciprocal nonverbal communication patterns for agents ▶ Enable the control and learning of practical and task-related skills for agents

to support and enhance various work tasks in organizations. However, its uniqueness as a computing and communication platform is still not widely understood. Our article builds upon VR's well-known potential to foster human cognitive functions in simulated environments and specifically aims at shedding light on its organizational implications in the context of knowledge management and remote communication. Based on a review of scientific literature and practice-driven insights, we have outlined six reasons why VR is a game-changing technology for organizations. As a computing platform, VR enables novel knowledge-management practices for managing enriched data and information and immersive workflows, which both benefit greatly from integrations with appropriate IS and other emerging technologies, such as AI. As a communication platform, VR can simulate every communication process imaginable (some of which can be AI-supported), which has significant potential for fostering an organization's online communication performance, knowledge creation, and group dynamics.

One of the main takeaways of this article is that VR enables not just substituting the physical with virtual but also novel ways of working. VR can make existing work more effective, but it can also bring completely new business opportunities for organizations. We elaborate these potential benefits for organizations in Table 1 and Table 2. Due to rapid developments in VR technology, organizations have not yet exploited these various possibilities afforded by the newest VR hardware and software. It is important for organizations to identify the business processes where the easily capturable benefits of VR converge with ease of adoption. As with any new innovation, organizations will need to develop new skills and capabilities to export their relevant digital assets, interactions, and communication processes to VR.

With sufficient capabilities, VR can also be used to radically transform organizational operations. However, VR is not a one-size-fits-all solution. Its benefits often emerge in very specific use cases (such as a particular simulation) that do not necessarily translate to a

monetizable VR service that could serve a larger group of companies. Instead, VR development is often based on customized solutions, which has made it difficult to scale and adapt them to different organizational contexts.

This article has identified the benefits of VR specifically for the context of knowledge management and remote communication in order to obtain key insights about the game-changing nature of VR for organizations. We also provide several key actions in Tables 1 and 2 that organizations can carry out to take full advantage of the six key aspects of VR we described and to realize the organizational benefits thereof.

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