Six Game-Changing Trends Driving the Collaborative Workplace of the Future

Summary: The workplace is undergoing fundamental changes, with people persistently connected by digital collaboration technologies and an evolving work environment. Understanding these key trends will enable enterprises to prepare for and implement a collaborative workplace.

Introducing the Workplace of the Future

The workplace of the future, while enabled by digital technology, goes beyond the limits of any one technology. It is a convergence of technologies, people and processes, dynamically interwoven in a seamless dance that blends the personal and the professional. This research note overviews the six game changing trends driving the future workplace and outlines a five-step plan that will enable enterprises to take advantage of them.

The new workplace is based on human interactions, both inside and outside the enterprise. It is a more visual and immersive domain than today’s voice- and paper-driven world. It integrates our interactions within the business processes they support, backed by predictive analytics that lead to better decisions. The workplace of the future is collaborative, contextual and visual.

The new workplace has no walls or physical address. Converging forces of mobility, the cloud, consumerization and globalization have obliterated geographical distinctions and flattened the world of work. Work is no longer just a physical place we go to, but what we do anywhere, anytime, using any device. The workplace of the future is global and mobile.

Global forces are pressuring businesses to be agile yet contain costs. Business leaders are learning how to acquire and use technology on their own without the help of IT. Their goal is to achieve specific business outcomes. Therefore every technology purchase is based on the business outcome it will enable. The workplace of the future is business-focused.
Trends that Will Impact the Workplace

Due to the changing nature of work in a geographically distributed workplace, collaboration is no longer limited to desktops, landline phones or videoconferencing rooms. Wherever people are, mobile devices, cloud services, social networks and video give them access to each other and help to nullify distance and time barriers. These, together with more open workspaces and predictive business applications, are leading to the collaborative workplace of the future (see Figure 1).

Figure 1: Six Trends Lead to the Collaborative Workplace of the Future.

Mobile Devices, BYOD and “Bring Your Own App”

The growth of mobility is unprecedented. Aragon expects that by 2020 over three trillion mobile devices will be in use. This puts enterprises under heavy pressure to manage and secure these devices, particularly since workers personally own many of them. Because so many people bring their own devices (BYOD) to work, enterprises need robust BYOD strategies to address the issues associated with corporate data on personal devices.

Mobile devices can do many things better in a work setting because they are so versatile. They are also better at handling voice, video and content sharing, which makes them user-friendly.
portable systems for any conferencing, streaming or collaboration sessions whether point-to-point or with multiple people.

Mobile apps, which are outcome-focused, will transform the way work gets done in the future. A tablet running a task-oriented app becomes a virtual dedicated machine, optimized for a specific business process. These apps can integrate cloud services that combine real-time collaboration and access to content.

Knowledge workers are constantly on the lookout for new apps that help them get ahead and get their jobs done. The “bring your own app” phenomenon is both a cause and effect of employees bypassing IT to be their own IT resources. Enterprises recognize that some of these apps can enhance worker productivity. Also, many cloud-based services are now offered in the form of mobile apps. Overall, mobile devices and apps are not toys; they are an important venue for new enterprise functionality and an enabler of improved competitiveness.

Cloud Computing and the Workplace

Cloud computing is one way that enterprises get faster access to software and services. Software-as-a-service (SaaS) apps run in the cloud so users can access them from anywhere. Enterprises also use cloud computing to shift costs to a monthly expense instead of a large capital outlay.

The cloud makes functionality instantly available in the workplace, including critical services like email and content management, productivity tools and essential enterprise applications such as accounting, HR and sales management. The cloud also enables real-time collaboration tools like video and Web conferencing, chat and instant messaging, and access to social networks, helping workers to interact both internally and externally.

To leverage current and future investments, enterprises will need a strategy that balances on-premises (private cloud), with public cloud. Hybrid cloud, which connects public and private cloud deployments, is a reality in real-time collaboration and it is one of the best ways to maximize current and future investments.

Social Business and the Need to Share

The cloud has also enabled the rise of social communities for both business and personal interaction. Workers always need to share things with others, and workplace communities are now entrenched in the work process, creating a social business. This
moves the goalposts for enterprise productivity services. Email is still useful, but workers in a social business need to share more things more transparently, and know who is sharing what.

Many enterprise and productivity applications have started to add collaboration to their feature set, so that people can interact in the context of the work they are doing. Since any business process involves documents as inputs and outputs, content management is also being contextualized, and integrated with collaboration.

Sharing content is a critical form of collaboration, and one of the most popular forms of content that knowledge workers will share in the new workplace is video. Content comes in many forms, such as presentations, documents (sales, financial, engineering), audio (music, work recordings) and video. Since video will also dominate real-time collaboration, it’s worth discussing on its own.

**Pervasive Video in the Workplace**

The growth of video in the enterprise is a major trend. It will come in all forms – real-time video collaboration and libraries of video content, including archives of recorded real-time events.

Video is an important new kind of corporate document. It is a powerful tool that affects the way people interact, and it will do so in every part of the enterprise. For example, real-time video can span a broad spectrum of quality and information. At one end, a smartphone chat session may convey only a single face with choppy expressions and gestures. At the other end of the spectrum, HD video can make remote participants in a conference, class or meeting look and sound as if they are sitting next to you.

When people seem physically close, others may feel that they are psychologically close as well. This can break down boundaries, promote trust and improve learning, collaboration and negotiation. Human interactions can change under the influence of video.

While some debate the effectiveness of this, evidence suggests that HD telepresence makes people feel like they are in the same room. As these capabilities expand beyond dedicated room environments, enterprises can harness the power of distributed teams more effectively than ever before.

**Video-Enabling the Conference Room**

During the next five years, HD video will be the new way to connect offices and remote workers. The conference room will become a “collaboration workspace.” Today fewer than 10% of
conference rooms are video-enabled, but demand is increasing and the cost of the technology is falling. 4K or Ultra HD displays will become common by 2016, and by 2020, we expect over 50% of conference rooms in large enterprises to be video-enabled (see Note 1 and Figure 2).

To make this work, video and voice need to be enabled by real-time cloud offerings, steady decreases in bandwidth cost, and codec advances. On top of that, conference rooms will be connected to scheduling systems, digital whiteboards, lighting systems and innovative approaches to room layout and furniture.

Planning Assumption: By YE 2020, up to 50% of conference rooms will be video-enabled.

Figure 2: Aragon Research Forecast: Percentage of Conference Rooms That Will Be Video-Enabled From 2015 to 2020.

Video-Enabled Business Applications

Video has such power that it is being built into many business processes (see Figure 3, next page). Video-enabled business applications (VEBAs) have vast potential, and enterprises will acquire them for a multitude of uses (see Note 2). Productivity will rise rapidly because video can deliver much higher information density. In the video-rich workplace of the future, video content management will be a key enterprise need.

Note 1: Video-Enabling Conference Rooms

The shift to real-time cloud means that audio and video capabilities will be available on a national and international basis. Lower costs for hardware and higher-quality audio and video will fuel demand for a more interactive collaboration experience.

This is true for conference rooms, which are poised to become multimodal collaboration workspaces. Aragon predicts that up to 50% of conference rooms will be video-enabled by 2020 (see Figure 2).

Note 2: Video-Enabled Business Applications

Key horizontal Veba use cases:
• Video tutorials
• B2B and B2C meetings
• Corporate communication
• Webinars
• Learning in a live setting (virtual classroom)
• Video recruiting
• Security (surveillance)

Key vertical Veba use cases:
• Banking
• Education
• Distance learning and virtual classroom
• Entertainment
• Video streaming/broadcast
• Government (live and recorded broadcasts)
• Justice services
• Emergency management
• Security
• Healthcare
• Patient services
• Education
• Home care
• Sports
• Live and on-demand sporting events
• Energy and manufacturing
• Quality inspection
• Training
• Maintenance and service
• Remote troubleshooting
Video Content Management: A New Imperative

We mostly think of video in the context of real-time collaboration, but much of the video that we search for and use will be in the form of stored video documents. Increasingly, our collaborative video interactions are captured and recorded for on-demand replay or reuse. At the same time, users and enterprises are constantly recording video tutorials and other documents. Job applicants now submit resumes in the form of videos, and many presentations and proposals that are now done in PowerPoint will move into video formats. All this recorded video then becomes a content type that needs to be managed.

Enterprises should develop a collaboration strategy that includes video as a part of all mission-critical interactions, and a content management strategy to leverage and manage the growing archive of these interactions along with all the other video content that the enterprise creates or acquires.

The Shift to the Open Workplace

A shift is occurring in the design and use of space at work. Open workspaces are a growing trend, although cubicles still dominate the overall workplace. The shift to more open work environments is designed to break down barriers to collaboration.

Enterprises are discovering something that advanced research groups have always known: enhanced collaboration among workers can often lead to breakthrough ideas or innovations.

Figure 3: How Knowledge Workers Use Video in the Workplace.
Open workspaces benefit collaboration, but there will always be a need for dedicated space for concentrated work: the conference room, reinvented as the collaboration workspace. As mentioned above, conference rooms will become more digitized and connected – hence the need for video conferencing.

**Predictive Business Applications**

“Predictiveness” has emerged as a term and a capability, and will become a business requirement. Predictive apps use machine-learning techniques to analyze “big data” and identify patterns. When they recognize patterns in human or machine behavior they can make appropriate recommendations in context. Predictive apps will be “smart” enough to help people work faster and more efficiently. They may suggest related content that a user should see, or find a video that will teach someone to perform a work-related task. On top of that, these applications may be able to connect a user to an expert instantly with a video call. Their impact on the workplace can’t be ignored.

**Key Steps to Enable the Workplace of the Future**

Sometimes the future appears gradually, but in the current case, some changes in the workplace require significant preparation. Not only will work change, so will the ways that customers and partners interact with the enterprise. Enterprises can improve their financial performance by leveraging these changes, but they may face unexpected complexities. Some of these fall into the realm of generational or attitudinal barriers, habits and expectations or other aspects of workplace psychology (see Figure 4).

*Figure 4: Key Steps In Planning the Future Workplace.*
Office Space Redesign

Redesigning office space takes planning and a phased approach. In some cases, enterprises using leased office space may want to evaluate the cost of current space versus leasing new space that fits the open floor plan design.

Note that there isn’t a one size fits all approach. Enterprises need to understand culture and develop a prototype office design that is tested and vetted for functionality.

Planning the Immersive Video-Enabled Enterprise

As mentioned earlier, the exploding use of video means the need to plan for video collaboration and for video content usage. Most access to recorded video will be cloud-based. For collaboration planners, both strategic and tactical plans are needed. Cloud-based services, advanced codecs, video-enabled endpoint devices and global bandwidth make real-time video interactions easy and reliable. The primary needs are to provision enough enterprise bandwidth to support the coming increase in demand, use smart scheduling to manage peaks in the demand, and keep equipment up to date to ensure that the most efficient technology is used.

IT professionals should approach recorded video more carefully because it is a challenging form of content. A cloud strategy can help here as well. Cheap, reliable cloud storage trades bandwidth for storage investments and adds global availability for distant and mobile users. Cloud providers may offer search and other library services as well.

Mobilizing Work and Driving Innovation

The race to the mobile workforce is on. Work tools are now mobile and Virtual workplace is all about mobile. Enterprises need to develop reinvent their work processes in the form of mobile apps. For many, the mobile app is the new portal.

Business leaders should realize that the app economy is all about reinventing work and the process of doing business. Looking at the world of work through a mobile lens is the new call to action. Enterprises should not miss this step.

Collaborative Work – Don’t Forget Security

Due to the mobility of the new collaborative workers, and the plethora of apps they use to interact with internal and external
constituents, security is a huge issue. IT has locked down many of the access points that attackers used to penetrate the enterprise, so cyber criminals now target individual workers via insecure consumer tools.

Many workers have no fear and are quick to use the latest and greatest consumer tools at work, so enterprises need to educate workers and certify approved tools that meet minimum security and content protection guidelines.

Planners should identify the internal and external networks their employees inhabit, characterize the interactions that workers engage in and evaluate the tools they use to do so. They should then establish governance policies to address the security risks around these tools and interactions and the content associated with them.

Once they assess the security of the available tools, enterprises should research their workers’ collaborative activity and their reasons for choosing the tools that they use. Only then should they make deep investments in the right collaborative technologies that will protect enterprise security while meeting their workers’ collaborative needs.

**Managing the Empowered Worker**

Enterprise planners should carefully study and understand the new collaborative culture and the easily accessible technologies that enable it. Collaborative workers feel free of organizational hierarchies, and know how to access the vast ecosystem of people, content and applications that is newly available to them.

This is a brand-new frontier for many organizations. The new collaborative workers value collaboration and seek it out, and they will bypass organizational controls to get their work done. These new workers are also mobile, and will rebel by taking their talents elsewhere.

Enterprises have to be agile to nurture their strengths while managing the risks around their enthusiastic collaboration. The key is to manage the tools, monitor the interactions, and reap the benefit of the innovations that emerge.

**Millennial Workers And The Millennial Mindset**

Many traits of the future workplace are familiar and welcome to the young workers who grew up on Skype and Facebook, often called “millennials.” Visual collaboration has been a part of their lives and they want and expect to do the same things at work.
Beyond any particular generation, however, a “millennial mindset” is emerging that has nothing to do with age. Digital technology now gives workers constant access to people and information inside and outside the enterprise, and they expect that access in the workplace. Companies should revisit their management styles and adjust to a people-first paradigm of governance.

Plan, Don’t Wait

There are many barriers to success in the future workplace, and lack of planning is one of them. One way to anticipate the pitfalls is to use test cases in a strategic form of sandboxing. Business operations planners from each business unit should work together, along with IT experts, to plan and design a new digital workplace. Well thought out plans, may mean that the enterprise may able to implement their designs sooner than they expected, because most of the technology is already available.

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- Changes in technology will make geographic boundaries start to disappear. Enterprises should look at cloud approaches to leverage global connectedness.
- Evaluate office space and plan to redesign workspaces to support a more engaging style.
- Enterprises need to adapt or face threats by more nimble competitors, including the ability to attract and retain talent.
- Mobile work is the new way forward. Enterprises need to take steps to ensure they can compete in the mobile app economy.
- Video will be a key aspect of collaboration, communication and content. Plan now for both cloud and on-premises infrastructure upgrades. Develop a five-year strategic plan.
- Millennial workers represent the future. Enterprises need to embrace them and ensure that work tools support the way they collaborate.

Bottom Line

The workplace of the future is at the doorstep of the enterprise. Workers want to engage in more collaborative interactions. Changes in how humans and computers work together will be driven by smarter software applications and a more immersive, geographically connected workplace. Enterprise business leaders recognize these shifts and are formulating plans that will give them a competitive advantage and better business outcomes.