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Getting started
Becoming a quantified organization

January 2024

Introduction

As they work, workers generate data from various sources, including digital work applications, workplace smart sensors, wearables, and voice/video inputs. These passive data sources can often be used in concert with traditional data sources like surveys or structured data in information systems and databases. Combining emerging and established technologies has enabled organizations to use this mix of actively- and passively-generated work data to develop a holistic, real-time understanding of how work gets done. This improved understanding can support value creation and decision making at multiple levels of the organization.

We call this new model the **quantified organization**. A quantified organization is one that takes a responsible approach to using new data sources and artificial intelligence to create value for stakeholders at four levels -- for individual workers, teams and groups, the organization, and society.

This report is our third in a series of research on the quantified organization. It is designed to highlight emerging and mature applications of the quantified organization to inform your strategy and inspire new thinking about possibilities. Insights presented in this report are based on the survey findings of Deloitte's **The time for the quantified organization is now** global survey, complemented by discussions with several subject matter specialists, and an extensive literature review.

Organized across functional areas and domains (see the table to the right), this paper highlights tangible examples of how organizations can start their journey to becoming a quantified organization. Digital data related to work, workforce, and workplace are likely to have a bearing on use cases across business functions and domains. The collection of use cases discussed in this report is representative and not meant to be exhaustive. As newer sources of data and emerging technologies to leverage such data mature with time, we are likely to see other use cases and applications.

Across the use cases, a functional implementation approach enables leaders to move swiftly through a federated structure while ensuring alignment to key objectives at the central level. While some elements of data collection and usage are likely to be set at more centralized levels of the organization, the cases in this report illustrate that organizations can move swiftly by empowering functional and domain leaders to implement these kinds of work data efforts.

Strategic growth and innovation	Human resources
Team leaders	Customer service and sales
Finance	Risk and compliance
Operations	Climate change and sustainability
Diversity, equity, and inclusion	Well-being

Across these applications, key technologies will be needed to enable a quantified organization. In implementing these technologies, organizations should navigate through challenges associated with legacy HR processes and data complexity, among others. Throughout the journey, maintaining data protection and privacy remain table stakes and the study discuss some guiding principles for organizations to consider.

The journey to becoming a quantified organization presents a unique opportunity to create value for stakeholders across the organization, improve workforce trust, and drive new levels of financial, reputational, and operational performance for the organization.

Five ways to create value across business functions and domains within a quantified organization

Looking across case studies, we identified five common approaches that organizations are using to create value. These approaches can be implemented across multiple functional areas and domains. They can create value at multiple levels of the organization, including for individual workers, teams, the organization, and broader society.

Unlock business growth
Passively generated work data can help organizations better understand interactions between workers, customers, and other stakeholders and potentially drive product and service innovation. In this sense, developing a quantified organization can support shorter-term as well as longer-term strategic growth opportunities.

Enhance the workforce experience
As organizations gain higher resolution views into how workers interact with each other and with physical workplaces, they can develop new insights into how to enhance and fine tune workforce experience and ways of working. These improvements in worker experience can, in turn, contribute to longer-term value creation for the organization while also enabling technology to enhance uniquely human capabilities related to communication, collaboration, and creative work.

Identify root causes/pain points
By capturing and analyzing data from across work activities, organizations can dig beneath the surface to identify the underlying factors that are contributing to ongoing pain points related to processes, people, and technologies. Increasingly, organizations can collect and analyze data from multiple sources in near real-time to understand and address these root causes. These kinds of insights can be used to inform decision-making processes that impact multiple parts of the organization.

Reduce costs
Understanding how work gets done can help organizations identify hidden costs related to unnecessary work and manual human efforts. These kinds of applications can enable organizations to identify tasks that are rife for automation and reduce costs while creating opportunities for workers to take on higher-value tasks.

Mitigate risks
Collecting passively generated work data can give organizations new tools to identify and mitigate risk and compliance issues. From strengthening compliance processes to automating physical security and access to equipment and information, organizations can use these tools to address threats before they emerge.

Key technology areas enabling a quantified organization

The technologies discussed below can provide organizations with a rich suite of tools to collect passively generated work data and turn that raw data into meaningful intelligence. While there are many technology areas, five key areas that are enabling this capability are highlighted below. Organizations can leverage a combination of these technology areas to achieve different business outcomes. For instance, combining organizational network analysis (ONA) with sensors can provide an ability to link digital interactions with actual behavior in the physical environment. However, when combining any application areas, organizations must be careful about seeking worker consent for each area and offer workers an avenue to opt out when they like — a key element of responsible use of work data and AI.

Select technology areas enabling a quantified organization

Organizational network analysis

Activity sensors and connected devices

Artificial intelligence

Process automations

Location intelligence

Key technology areas enabling a quantified organization

As organizations can leverage these technology areas, it is important to keep these efforts open and transparent with the workers. Organizations should seek consent and keep these efforts voluntary while clearly communicating what data they are collecting, what technologies are being used to collect the data, and how it will be used and stored.

Technology Areas	Brief Overview
Organizational network analysis	ONA provides a structured way to analyze how communication, information, and decisions flow through an organization. ONA has historically focused on the use of actively collected data through surveys to understand how information and behaviors can spread through a network. In recent years, there has been a growth in sources of passive data originating from emails, instant chats, calendars, collaboration platforms, wearables, and smart sensors in the workplace, among other sources, that can be analyzed.[1] When combined with traditional datasets such as ERP and data from worker surveys, these new sources of data can generate meaningful insights about the workforce. Additionally, when combined with AI, ONA can lead to predictive analytics that can provide insights about innovation hubs and key influencers within the organization, real-time analysis of worker sentiment, DEI considerations, and more.
Activity sensors and connected devices	Sensors have been used since the third industrial revolution (beginning in the 1970s), largely for factory automations. Over the years, sensors have undergone significant advancements related to miniaturization, reduction in costs and energy consumption, and enhancements in functionality, resulting in a wide array of available sensors. In the context of Internet of Things, wireless sensors, which can transmit data over networks, enable remote visibility and control of work processes and environments. Moving from the macro to the micro view, within the four walls, data from occupancy sensors can inform decisions about workspace utilization, and use-based cleaning to reduce carbon footprint and costs. At an individual level, highly precise sensors embedded in wearables such as smartwatches can generate insights to make workplaces ergonomic and detect any health risks posed to workers due to their repetitive or heavy movements. Voice sensors combined with AI can generate insights about communication and collaboration dynamics within the organization, with customers and other external stakeholders. Some exploratory applications of sensors include analyzing brainwaves through electroencephalography (EEG) sensors to support the health and well-being of the workforce. As technology continues to advance, sensors are poised to play an increasingly pivotal role in shaping the future of innovation and human-machine interactions.

Key technology areas enabling a quantified organization

Technology Areas	Brief Overview
Artificial intelligence (AI and Generative AI)	Not surprisingly, 94% of the business leaders surveyed as part of Deloitte's 2022 *State of AI in the enterprise* study agree that AI is critical to success. AI allows organizations to leverage large data sets, improve efficiencies, and unlock business value across functions and domains. Within customer service and sales, some of the applications include chatbots powered by machine learning and natural language processing programs for customer service, analyzing large data sets to understand the buying patterns of customers for marketing, among others. Within HR and people development, AI can help organizations with skills mapping and provide personalized training and coaching while tracking an organization's progress against DEI goals. Within production and supply chain, AI-enabled vision-based systems can help improve worker safety and asset and inventory management.[2] Emerging applications of generative AI hold a lot of promise for workers in terms of improved creativity and work effectiveness and for organizations through innovative business models and processes.[3]
Process automations	Automating manual and repetitive procedures provides workers the opportunity to allocate more time to tasks that contribute enhanced value for themselves and for the organization. Some well-established industry examples of process automation include streamlining accounting processes, managing patient records, processing claims, facilitating customer service interactions, managing onboarding and offboarding processes, and automating account opening and closure procedures, among others. Process automation presents an opportunity for the workers to save time on repetitive tasks and work on higher-value activities, thereby creating more value for the organization while progressing and empowering their career. When identifying processes to automate, unobtrusively—but transparently—observing workers' work can help capture the entire workflow accurately to enable process automations. It also offers an advantage compared to active observation, which may be influenced by the subjective perspective of the process analyst and the manual notes they generate.[4]
Location intelligence	Location-based insights can inform decisions about location of workers, assets, and systems, and their interaction with each other and the environment. Location tracking through technologies such as GPS, RFID tags, Bluetooth beacons and camera-based systems can help ensure the safety of workers, compliance with the protocols, and optimize business operations. Through real time location systems (RTLS), organizations can track assets within their premises with accuracy. These systems can also be paired with worker tracking to ensure safety in a production floor while directing people in the shortest time and safest way possible. GPS has been used, for a long time, by organizations to track and navigate assets but by analyzing the paths, organizations can identify areas where processes can be improved and automated. Location tracking and vision technologies can enable better visibility in complex and geographically spread supply chains. In office settings, badge swipes and VPN logins can provide location data to ensure that the companies are meeting their compliance requirements.[5]

Working across silos to strengthen the quantified organization

Creating a quantified organization requires collaboration from leaders, workers, and teams across traditional boundaries to develop a holistic understanding of how work gets done. To move forward in their journey, organizations can integrate traditional sources of work data with emerging passive data sources, enhance data collection efficiency, and distribute the responsibility for implementing quantified organization initiatives across the organization.

Harnessing insights from multiple data sources and technologies

To generate meaningful and comprehensive people and work analytics, data from different departments, functions, and domains must be aggregated, cleansed, and analyzed. However, incoming data streams can often be in different formats and come at different frequencies. Data warehouses can serve as a central repository to combine data from multiple sources and transform them into a consistent format that is usable for analysis. They can also enable time series analysis that can help leaders understand the impact of their initiatives over time.[6]

Fusing emerging and established data sources, collection, and analysis approaches

Each of these emerging technology areas offers a spectrum of applications, ranging from exploratory stages to emerging and maturing phases. Exploratory applications hold promising potential in the long term but may currently exhibit limited implementation and success. Emerging applications are tested, and these applications exhibit established benefits but are still in the process of being scaled. Meanwhile, maturing applications have demonstrated success and are progressively becoming more prevalent. The paper discusses examples for each of these categories in the subsequent sections of this report. Despite the growing maturity of technology applications, newer sources of passive data, and the insights derived from them, these applications do not supplant conventional methods of active data collection and analysis, including pulse surveys and worker check-ins. Each approach has its own merits, and the synergy of both methods is likely to help leaders with more comprehensive and timely insights, augmenting their decision-making capabilities.

Sharing responsibility to drive higher-level objectives

HR datasets comprise a wealth of information covering the complete worker journey, from recruitment to career advancement, internal transfers, performance evaluations, satisfaction ratings, departures, and re-employment. These data sets tend to feed into established processes with clear owners and responsibilities. As work data is leveraged for more comprehensive purposes throughout the organization (encompassing data related to organizational workflows, assets, and compliance requirements, among others), it is critical to ensure that there are similar processes to ensure ownership and responsibility. Ambiguity about the higher-level purpose and accountability could slow down efforts to support the quantified organizations. By establishing well-defined roles and responsibilities for how to combine and leverage HR data along with other sources of work data, organizations can enable their teams to create shared value for workers, teams, and the organization beyond everyday operations.[7]

The importance of responsible data collection

Global organizations need to be particularly mindful of the various laws and regulations within their jurisdictions as they scale their quantified organization efforts. It is important to note that the collection and use of passive workforce data is subject to local regulation, such as those of GDPR in Europe. This shifting regulatory landscape highlights the importance of working closely with legal and human resources teams to navigate ongoing compliance challenges.

Organizations can benefit by going beyond regulatory requirements to embrace responsible data collection principles. Between May and July 2023, Deloitte surveyed 1,000 executives (C-suite or president, vice-president, and director-level) and 1,000 workers (senior managers and professional staff/workers) from global organizations across nine different countries to understand their sentiment around the use of new sources of data to inform organizational strategy. Our survey on the quantified organization indicates that both workers and leaders have seen improved business and worker outcomes—including improved workplace safety, increased business growth, and increased worker satisfaction—due to the use of new sources of work data.

Critically, using data in a way that workers trust can increase an organization's likelihood of success in using new work data. For instance, a classification model analysis of this survey data shows that trust in an organization's approach to data management increases the probability of improved business growth by roughly 50% and agility by approximately 40%.[8]
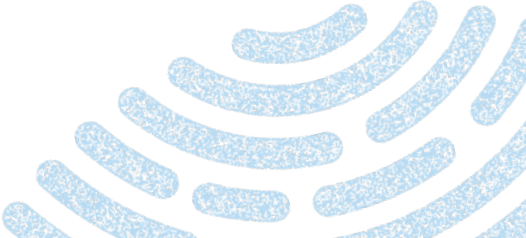
These findings suggest that collecting data in a way that protects privacy and increases trust benefits workers as well as the organization.

Guiding principles for collecting data responsibly and ensuring privacy

Organizations can make the best use of this opportunity by considering some guiding principles for collecting data responsibility and ensuring worker privacy. By maintaining these guidelines, organizations can help ensure they are protecting worker privacy as part of their data collection efforts and creating value for individual workers, organizations, and broader society.[9]

1. **Aggregate and anonymize worker data**	The collected data should be cleansed of individual identifiers (including email address and worker ID) and should be presented as aggregated insights wherever possible.[10] Organizations should ensure that the data that they are analyzing has a sufficient base size to eliminate the possibility of identifying individual workers, especially in the cases when the data is being studied at a demographic or at a team level.
2. **Stay within your lane**	Data collected and used should be within work hours/workspaces, and not crawl into workers' activities outside work, especially important in case of remote and hybrid work models. For instance, location analysis can be used to improve organizational compliance and worker safety but should not be used to detect workers' location and activities outside of work, in compliance with local laws and regulations. As per the GDPR guidelines, the collection of workers' data must be limited to what is necessary to achieve the agreed outcome of analysis such as risk mitigation and not beyond. In some EU states such as France, Italy, and Spain, guidelines regulate the use of digital devices during rest and leave periods.[11]
3. **Keep it transparent, explainable, and non-evaluative**	Our global survey suggests that workers' top concerns related to workplace data collection include: 49% of workers were concerned about the lack of transparency on how data will be used; 45% were concerned that their data would be collected without consent, and 43% were concerned about the risk of termination.[12] There should be clear communication about how and why the data is being collected and analyzed, and how the insights will be used. Worker data shouldn't be used for evaluating the performance of workers or teams.
4. **Safeguard worker data well**	Our research highlighted that the main challenges are not related to workers' lack of trust or their opposition to their data being collected, but rather the organizations' ability to safeguard the data. Work and worker data should be protected with the same set of standards and protocols that are typically deployed to safeguard other types of data related to client information, tradecraft, and proprietary data. The Electronic Communications Privacy Act (ECPA) in the US also holds organizations responsible for the security of any data they collect.[13]

Guiding principles for collecting data responsibly and ensuring privacy

5.	**Seek worker consent for each application**	Avoid seeking a blanket consent through one large overarching consent form that allows data usage through perpetuity. Consent can be sourced in the form of voluntary data sharing agreements (VDSA) where the workers have an option of opting out if they are not willing to share their data. VDSAs should be clearly worded, and workers should know where to find and access them. As part of our global survey, nearly 90% of workers with VDSAs said these agreements improved trust in their organization. Workers who work for organizations with VDSAs are more open to data collection and more trusting of how their data gets used. These findings suggest that there is a huge upside to these kinds of agreements for organizations. However, only one-third of the organizations surveyed are currently offering VDSAs.[14]
6.	**Comply with local laws and regulations**	Organizations that operate in multiple geographies should ensure that they are meeting the local laws and regulations pertaining to worker privacy. Implementation in one geography may not be permitted in another and should be localized before rolling out the initiative centrally. Also, organizations should not retain the data for longer than necessary. The recommended duration for retention of data may also vary on the type of data. For instance, GDPR states that the parental leave data could be stored up to eight years (in case it's required for future use) whereas details related to hours and days worked each week, leaves availed, and payment received for the same could be stored for up to three years.[15]
7.	**Deploy technology that does not obstruct/impact work processes**	The technology used should not interfere with how workers work during their usual workday and instead should operate in the background without obstructing day-to-day operations.
8.	**Protect worker privacy and drive acceptance and adoption over time**	Implementation of quantified organization use cases should be done sensitively. If an application involves a physical component to record data (like a badge) that is easily observable, workers who aren't participating in the effort feel pressure to comply. One way to address this is to offer placebo badges that look like traditional badges for those who aren't participating in the voluntary application, so they don't feel pressured to join. Over time, they can evaluate and sign up voluntarily if they see the service as valuable.

Case studies for functional areas and domains

Quantified organization use cases discussed in this study have been organized by functional areas and domains (listed below) that illustrate opportunities to create business value for workers, teams, the organization, and society.

Strategic growth and innovation	Human resources	Team leaders	Customer service and sales	Finance
Risk and compliance	Operations	Climate change and sustainability	Diversity, equity, and inclusion	Well-being

In many instances, these cases illustrate how an initiative that can create value in one functional area or domain can lead to broader organizational value. For instance, finance-related use cases describe opportunities to leverage new sources of work and worker data to reduce costs and enable higher-value work to drive the "future of finance." Likewise, HR use cases illustrate how data related to workers can be combined with other sources of passive data related to operations, assets, and other areas to draw overarching insights and drive overall business growth.

Each use case discussed in the report is organized broadly into three key sections:

Key challenge: A pain point or improvement area for an organization
As organizations look to address concerns or make improvements in areas of people, processes, and systems, passive data can unlock avenues to overcome these challenges.

Solution and approach: The efforts taken by an organization to address the key challenge
With the help of enabling technologies, new and existing data sources can be leveraged to convert these sources into meaningful insights and actions. Use cases discussed in this report may exhibit different maturities ranging from exploratory to emerging and maturing. Exploratory applications hold promising potential in the long term but may currently exhibit limited implementation and success. Emerging applications are tested, and these applications exhibit established benefits but are still in the process of being scaled. Meanwhile, maturing applications have demonstrated success and are progressively becoming more prevalent. Maturity is assessed based on a literature review and a subjective assessment based on discussions with subject matter specialists. The maturity of applications discussed may evolve during the course of development and publication of this report.

Impact: Impact of the use case implementation across four levels of shared value - individual workers, teams, organizations, and society
Organizations can use the data they collect about work and the workforce to benefit everyone—individual workers, teams and groups, the organization, and society as a whole. The value created at each level can flow between them, reinforcing and amplifying the value created at other levels. The study discusses tangible examples of how value can be created and shared.

Strategic growth and innovation
Unlocking opportunities from the bottom up

Strategic growth and innovation

Unlocking opportunities from the bottom up

While executive leaders often drive growth and innovation, all workers can contribute to new ideas and improvements that can drive growth efforts. Until recently, these on-the-ground innovations were difficult to capture and even harder to scale. However, as new data collection and analytics tools improve, organizations are gaining new tools to identify how workers are making product and service innovations that can support growth from the bottom up.

In addition to identifying potential product and service ideas, work data is lending insight into how structural factors and process barriers impact growth and decision making. As the cases here illustrate, organizations can use these understandings to influence succession planning, cross-functional collaboration, process design, and approaches to decision making to support strategic growth and innovation.

As organizations look to these tools to identify hidden pockets of growth and innovation, they can use what they learn to enhance knowledge and make improvements across the organization. In doing this, it is critical to not only focus on removing hidden barriers but also celebrate wins emerging from worker-led efforts.

Enabling workers to cocreate new products and services

Representative data sources

- Voluntarily shared social media posts
- Company's internal communication portals

Representative technology areas

- ONA
- AI (Social media analytics and text analytics)

Shared value creation

Individual level
- Improved worker engagement

Enterprise level
- New product development
- Increased customer engagement through menus curated by local baristas

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[16]

A chain of coffeehouses was looking for creative ideas for fall-inspired drink recipes. They wanted to leverage the creative abilities of their baristas, seek recipes that resonate with customers, and create a unique coffeehouse experience for their patrons.

Solution and approach

The company encouraged their baristas to submit their favorite fall beverage customization ideas using a specific hashtag on social media. AI enabled text analytics provided an aggregate of all posts with the selected hashtag. The company's marketing team reviewed social media responses to the beverage ideas. Then, they tested the submitted recipes and launched a few recipes in select stores in the US.

The baristas across stores were encouraged to use these recipes as an inspiration to create their own drinks. They were invited to share their recipes and encourage customers to request the items irrespective of their location. The recipes that were trending on social media were then made available across store locations.

Impact

The initiative allowed the company to test and launch new beverages in a short period and celebrate worker successes. Baristas also felt a high sense of ownership when they crafted unique recipes. In addition, if any locally crafted beverage proved popular, the company started offering the same across its other stores to building customer engagement.

Improving collaboration for strategic growth

Representative data sources

- HR information systems
- Work instant chats
- Data from work collaboration platforms

Representative technology areas

- ONA

Shared value creation

Individual level
- Increased knowledge sharing

Team level
- Improved information transfer
- Improved collaboration

Enterprise level
- Improved strategy implementation
- Enhanced cross-functional collaboration
- Effective change management

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[17]

A financial services company envisioned its future state operating model and identified core capabilities and organization structure to support the future state. To successfully execute various efforts to get to the future state, the company wanted to understand workers' collaboration patterns within and across business units and shared services, identify and facilitate informal communities, and leverage influencers to drive change within the organization.

Additionally, the company also wanted to accelerate and ease the integration process of acquired businesses to realize value in their growth journey.

Solution and approach

The company used ONA to understand collaboration patterns among their workers. The visualization helped the company to identify which functions were most connected within the organization and which functions were operating in silos. Business units (BUs) that were a part of an acquisition were the most siloed and disconnected from the rest of the organization. Fortunately, few workers were acting as bridges between these units and the overall organization. The analysis revealed that BUs has limited collaboration with the central Strategy team which may be impacting the transcendence of the enterprise strategy into BU-level priorities. Additionally, business units were less connected to shared services functions, not leveraging their full capabilities.

The analysis helped identify 157 workers who were potential knowledge brokers—individuals that enable collaboration or exchange of knowledge across teams. Further analysis revealed that 82% of the identified knowledge brokers were from the middle management organizational levels suggesting that middle managers were primarily responsible for the majority of information flow within the company. Out of the 157 workers, 11 workers were connected to over 85% of the organization illustrating their potential to build consensus and drive key operating model changes within the organization.

Impact

On an ongoing basis, these insights enabled the company to explore root causes that led to a disconnect between strategy and business units. Governance structures could be established to better align individual BU-level strategy with corporate enterprise strategy. The effort also illustrated the need to better articulate the value delivered by shared functions to BUs to incentivize greater collaboration among BUs and shared services teams.

Further, the analysis helped the company identify challenges of integration seen in prior acquisitions when planning an inorganic growth strategy in the future. Additionally, individuals who were well-connected within the enterprise could be placed in strategic roles and governance structures during future organizational design efforts to drive change management.

Preparing the next level of leadership

Representative data sources

- Work emails
- Meeting calendars
- Work instant chats

Representative technology areas

- ONA

Shared value creation

Individual level
- Improved exposure to leadership
- Clearer career paths

Team level
- Improved cross-team collaboration

Enterprise level
- Improved strategy implementation
- Continued leadership development for business continuity and growth
- Effective change management

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[18]

Key senior workers of an oil and energy company's corporate law department were planning for a near-term retirement. However, there were fewer next-level workers who were ready for these leadership roles as they had limited opportunities to connect with senior colleagues and leaders. The organization wanted to help their lesser tenured workers build cross-level relationships with tenured leaders, but the department didn't have mechanisms to measure the impact and return on investment on the actions they had planned.

Solution and approach

The company assessed the 500-person department by analyzing historical collaboration data from email, calendars and chat logs and analyzed by different cuts such as tenure in the organization, work floor and office, and primary team assignments.

Based on the assessment, the company redesigned the workplace to increase cross-team interactions among mid-level executives and their exposure to senior leadership. Seating arrangements for the executive leadership team was distributed across all floors instead of being concentrated on one floor. The company also increased the number of hot desks (desks that can be reserved and used by any worker) to improve workers' access to the leadership.

The department continued to analyze the data for five months after implementing the changes to measure its effectiveness.

Impact

Workplace redesign increased the cross-team collaboration and knowledge sharing among workers, thereby preparing the next line of leadership for continued business growth.

Creating organizational processes to streamline decision making

Representative data sources

- Work collaboration channels
- Project management data

Representative technology areas

- ONA
- Process automation

Shared value creation

Individual level
- Better clarity on process flow and decision making

Team level
- Improved collaboration

Enterprise level
- Faster decision-making
- Increased decision-making accuracy
- Time savings for fewer meetings

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[19]

A digital communications company wanted to improve the organization's decision-making process, which was often impacted by ambiguity and delays.

Solution and approach

The company deployed an API which connects the decision-making process to instant chat and business collaboration platforms. This system acted as a single source of truth to document what was decided, which stakeholders were involved, what information was shared, and which choices were considered.

Using guided flows and decision templates, the system recommended the best option while eliminating any built-in biases as users make decisions. Once a decision was finalized, the system communicated the decision to all involved stakeholders, enabling the owners to delegate tasks and follow-ups to speed up the execution.

Impact

The automated decision-making approach reduced the average decision-making time from two to four weeks to one to two days, reduced meeting time by 50%, and improved cross-team communications on an ongoing basis.

Human resources

Get to know your workforce better

Human resources collects large volumes of actively generated data about the workforce to better understand how to support workers and strengthen work across the organization. Passive data sources are increasingly being used to enable organizations to move from episodic surveys and tools to continuous listening capabilities. Likewise, these tools are helping HR leaders anticipate workforce challenges and needs before they become full blown problems while creating value across the organization.

As these cases illustrate, organizations are finding myriad ways to better understand their workforce through passive data collection and improved analytics. These tools can help HR support their workers throughout their journey within the organization and support upskilling, engagement, and professional development. These tools are even creating opportunities to more effectively and efficiently source internal and external candidates to fill open roles.

As part of these efforts to better listen to and understand workforce needs, it is critical to make sure that workers can trust that listening efforts are aimed at addressing their needs and improving their work experience. To build and strengthen this trust, organizations should make these efforts voluntary for the workers to participate in. They should share the objectives with the workers while also sharing how the data will be stored and used to achieve these objectives. Workers are more likely to opt in for the efforts if they are aware about the objectives and the resulting benefits.

Optimizing talent acquisition processes to improve applicants' experience

Representative data sources

- HR information systems

Representative technology areas

- Process automation (process mining and custom Application Programming Interface (API))

Shared value creation

Individual level
- Improved experience for applicants
- Streamlined process for hiring managers

Enterprise level
- Improved visibility into talent acquisition processes
- Reduced cycle time for hiring
- Quicker onboarding of new hires

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[20]

A chemicals company identified that their talent acquisition process was taking longer than they wanted, which was negatively affecting the applicant experience and elongating their acquisition and onboarding processes. The company wanted to re-engineer this process while focusing on a reduction in the overall cycle time and increasing their hiring ratio.

Solution and approach

The company deployed custom API to create a single-view talent acquisition dashboard that drew data from multiple HR systems. Process mining revealed process steps starting from job posting to application status, screening, interviews, and hiring. The dashboard provided detailed visibility to understand how long each step in the process is taking (versus the company and industry benchmarks) and bottlenecks that needed to be addressed.

This dashboard enabled hiring to review all job requisitions and expedite certain requisitions and applications, as required. The analysis also helped hiring managers to implement quick wins such as reducing the number of interviews to improve the applicant experience.

Impact

By addressing the process inefficiencies and streamlining the talent acquisition process, the company was able to reduce their time-to-hire by 10%.

Understanding worker sentiments at scale

Representative data sources
- Real-time worker responses

Representative technology areas
- Process automation (live feedback platform)

Shared value creation

Individual level
- Improved feeling of being heard

Enterprise level
- Better visibility into workers' experiences

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[21]

A telecom company wanted to revisit their worker experience for new joiners as well as tenured workers. The company wanted to understand how workers felt about working at the organization with a focus on understanding how they collaborate, the technology they use, their career progressions, and learning opportunities.

Legacy methods of collecting feedback can often have challenges. One-on-one interviews and focus group discussions can help gather granular insights but are hard to scale. Surveys are scalable but may lack personalized context.

Solution and approach

The company deployed an interactive live feedback platform to bring together over 200 workers. The tool helped HR leaders to formulate and test hypotheses with large groups of workers. Its AI functionality helped moderators analyze and manage conversations by identifying key themes and sentiments trending in the discussion. The automated dashboards and data visualization capabilities illuminated key insights and enabled leaders to take decisions promptly. The tool could also be integrated with other platforms and data sources making it analysis more comprehensive.

Impact

The tool allowed the company to engage with workers at scale which wasn't possible using traditional methods. They were able to connect with workers on a more personal level which helped in understanding the worker experience and the pain points faced by new joiners and tenured workers.

Assessing current capabilities and building skills for the future

Representative data sources

- Project management data
- HR databases
- External databases mapping skills to job profiles

Representative technology areas

- AI (text analytics)

Shared value creation

Individual level
- Learning and skills development
- Career mobility

Enterprise level
- Developing a future-ready workforce

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[22]

A pharmaceutical and medical technologies corporation had two major goals while building their understanding of how data and emerging technologies can be leveraged to strengthen and future proof the business. First, it wanted to support worker development by ensuring that the workers understood the strategic priorities, are skilled at using emerging technologies, and aware of options available for them within the organization to grow their careers.

Second, it wanted to understand the skills possessed by their talent pool and the skills they will need to achieve their future goals as an organization.

Solution and approach

The company used an AI text analytics model which used internal as well as external data sources (external talent marketplace) to compare worker skills and competencies against a particular job profile by analyzing 40 technical and leadership skills. The workers' skills were rated on a scale of 1 to 5 by comparing it with someone with a similar job profile in the external marketplace.

Workers received results of the AI assessment which enabled them to understand and develop their skills. The model allowed the company to reduce the subjective view of the mangers about their workers' skills and establish a baseline for skills development of team members.

Impact

The data uncovered insights into workers with strong skills while providing greater insight in these areas which will be important in the for the company in the future but are currently underdeveloped. By identifying the skills gaps, the company nudged its workers to focus on continued learning and upskilling.

Enhancing worker engagement through real-time insights

Representative data sources

- Work chats among workers
- Workers' responses to the AI chatbot questions

Representative technology areas

- Organizational network analysis
- AI (text analytics and conversational AI)

Shared value creation

Individual level
- Improved engagement
- Increased collaboration

Team level
- Improved team performance

Enterprise level
- Reduced attrition

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[23]

A professional services firm wanted to augment traditional survey tools with analytics to gauge worker sentiment in real- time. Their goal was to use this improved understanding to minimize delays in improving worker experience and to identify opportunities to improve virtual "watercooler" interactions.

Solution and approach

The company launched an AI powered chatbot which analyzed worker sentiment by talking to the workers on a regular basis. The bot interacted with new hires eight to 10 times in their first six months. For all other workers, the bot interacted for a minimum of four times a year.

These conversations were driven by past conversations that were analyzed by the AI application. Based on the workers' responses, the AI tool generated a "mood score" which reflect the worker's sentiments at the end of each conversation. The conversations enabled the organization to proactively identify workers who are unhappy and address their concerns.

Along with the AI chatbot, the company used ONA to analyze communication patterns. This analysis helped the company to identify risks of employees leaving and engage with them, identify knowledge nodes or key influencers within the organization to drive change management, and generate pairs and groupings of people to facilitate virtual watercooler conversations through automated introductions.

Impact

On an ongoing basis, workers with a low mood score were nudged to enroll for internal learning and development courses to improve their workplace satisfaction and engagement. Additionally with the help of the chatbot, the company was able to gauge worker sentiment and take timely corrective actions.

Team leaders

Optimizing collaboration and coordination among individuals and teams

Team leaders

Optimizing collaboration and coordination among individuals and teams

In addition to informing executive level strategy and decision-making, quantified organization efforts can enable executives to better support team leaders and managers by providing them with tools to understand and improve team performance.

For instance, organizational network analysis can help in identifying best practices or behaviors—such as frequency of engagement and interaction and the role each team member plays (for example, decision makers, knowledge brokers, bottlenecks, influencers)—that differentiates high performing from low performing teams. This kind of data can be used to support team leaders and managers with actionable insights related to diversifying team composition and strengthening team dynamics and performance. Further, passive data can also provide team leaders with a better understanding of workers' skills, fair performance management processes, inclusion, and other dynamics that are hard to measure but are important foundations of team performance and success.

As the cases in this section suggest, organizations can benefit by using the approaches of a quantified organization to empower team leaders with relevant data that can strengthen middle management and team leadership throughout the organization.

Driving collaboration through better workplace environment

Representative data sources

- Office layout and seating
- Digital work communications

Representative technology areas

- ONA

Shared value creation

Individual level
- Knowledge sharing
- Improved work effectiveness

Team level
- Improved team bonding
- Improved collaboration within the team

Enterprise level
- Higher sales performance
- Improved worker morale

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[24]

A bank wanted to understand the reasons behind the performance gap of their branches. It discovered that one branch was outperforming the other branch by 300% despite both branches working with similar customer segments and business structures.

Solution and approach

An analysis of the communication patterns revealed that workers working in the underperforming branch had less time to interact, collaborate and build trust with their peers, while workers from the high performing branch were constantly interacting with each other and sharing knowledge.

An analysis of the office layouts and digital communications across branches (segmented by tenure and compensation) revealed that teams in the underperforming branch were working in a siloed way. The limited communication and collaboration especially affected the less-tenured workers and new hires.

The organization implemented changes such as a rotating desk system to facilitate interactions with different professionals, introduced a group bonus structure to incentivize knowledge sharing, and allocated budget to facilitate team lunches to enable new hires and less-tenured workers to engage with others.

Impact

As a result of these interventions, the low performing branch witnessed an increase in sales by 11% year-on-year.

Improving work performance and worker retention

Representative data sources

- Voice patterns
- Call logs
- Worker satisfaction surveys
- Work schedules and breaks

Representative technology areas

- Activity sensors and connected devices (sociometric badges)
- ONA

Shared value creation

Individual level
- Reduced call completion time
- Reduced stress levels

Team level
- Improved knowledge sharing

Enterprise level
- Improved call center performance
- Better worker retention

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[25]

A bank wanted to improve performance of their call centers and drive higher worker retention. They wanted to understand why some of their locations were more successful in employee retention than others and how this could be replicated across its locations.

Solution and approach

The organization used sociometric badges to analyze voice patterns of the workers when they interacted with each other and with the customers. The badges didn't record the actual conversations but rather analyzed voice patterns.

Metadata of the conversation (including tonality and duration) was combined with other data sources such as retention data, call logs, worker satisfaction surveys, and work schedules. The analysis revealed that workers who socialized with others in the workplace on a regular basis had the highest level of engagement with customers too. It also confirmed that workers communicated with each other the most during their scheduled break times, however, break schedules were staggered, thereby limiting the overlap time.

With these insights, the bank made some of their break times common (enabling workers to connect and collaborate) and the rest of the break schedule remained staggered. The synced break improved interactions among workers and fostered knowledge sharing. Through regular interactions, workers also reported lower stress levels.

Impact

After implementation of the revised break schedule, call completion time reduced by 23% and worker retention rates increased by 28%.

In addition, the company observed a reduction in stress by 19% measured by tone of voice. Finally, the cohesiveness of the network–measured by how well the workers were communicating with each other–increased by 18%.

Optimizing team composition

Representative data sources

- Skills data
- Workers' connections within the organization
- Workers' connections with client teams through sales platforms

Representative technology areas

- AI

Shared value creation

Individual level
- Matching project opportunities
- Enhanced career mobility opportunities

Team level
- Improved team composition with complementary skills

Enterprise level
- Increased win probability for sales opportunities

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[26]

Sales roles often require a combination of multiple skills including product knowledge, client relationship management, and social connections. When building sales teams, having a mix of professionals with these varied skills is critical to the success of sales opportunities. A technology company was looking for a systematic way to optimize team composition to improve sales outcomes.

Solution and approach

The company deployed an AI algorithm that makes suggestions about an optimal team composition using data about workers' skills and their social connections within the organization and with external clients. When a team member was added to the team, the expertise they brought to the team was taken into account to determine what gaps were remaining. The process continued until an optimal team was formed. The model also presented a win-loss probability which guided team leaders about an optimal team for the current opportunity and the probability of winning business with that team.

Impact

The tool enabled sales leaders to move beyond intuition and broaden their choice of individuals from different divisions or different country offices across the organization as part of their business processes.

Customer service and sales

Enhancing customer experience while bolstering brand reputation

Customer service and sales

Enhance customer experience while bolstering brand reputation

Work data is providing a new source of intelligence to identify bottlenecks in internal processes that may be impacting relationships with customers. This data is not only providing intelligence to understand internal processes but can also be used to better understand how to enhance customer service efforts and, in the process, support better sales. This data is increasingly allowing organizations to tailor support and sales interactions in real-time by, for instance, using AI to analyze the content of a customer service call to help agents better address the problems surfaced in the call.[27]

These kinds of initiatives benefit the organization by improving the profitability of sales interactions, but they also benefit workers. One recent study looked at the use of AI tools to support customer service agents and found that not only did these tools help agents work more effectively and resolve complaints faster, but in the process, they could improve job satisfaction and reduce worker turnover. Additionally, AI and related technologies can help augment uniquely human capabilities to build customer empathy and improve the overall work environment.

While these kinds of efforts show potential to strengthen sales while improving worker experience, it is important for organizations to be mindful of consent laws and potential privacy risks involved with collecting data from customers and workers.

Improving internal processes that may be impacting relationships with customers

Representative data sources

- Internal work conversations within sales and customer service teams
- Interactions with clients

Representative technology areas

- AI (Voice analytics and text analytics)

Shared value creation

Individual level
- Improved situational awareness of customer needs
- Less time spent on information transfer allowing more time for value addition
- Focused training and coaching to improve work effectiveness

Team level
- Improved information sharing
- Improved visibility among teams

Enterprise level
- Improved sales performance

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[28]

At a travel management company, legacy workflows often led to customers interacting with multiple agents on the sales team and the customer service (CS) team. Each interaction required customers to repeat the purpose of their call.

This workflow created multiple challenges for customers and sales and CS agents such as sub-optimal customer experience, potential loss of critical information during transition between multiple agents, and limited time available for agents to up-sell or cross-sell.

Solution and approach

To address these challenges, the company leveraged a software application that recorded all the previous conversations with clients including conversations with the sales team and follow-up conversations with the CS team. This single source of data enabled better alignment between the sales and CS team–what was promised and what's being delivered.

In addition, it helped with a seamless transition among different CS agents. The duration and tonality of a conversation are benchmarked against the industry's and company's best practices to identify areas of improvement. In addition, transcription and keyword search features allowed the team to get a sense of the customer's sentiment, address their needs, and understand whether it's an appropriate moment to up-sell or cross-sell.

Depending on the customer sentiment, information can be shared with the relevant internal teams. For instance, product feedback can be shared with the product development team or a customer appreciation can be shared with the sales team.

Impact

The centralized application enabled a regular validation of what was agreed with the clients. It also facilitated a smoother handover by limiting the bias of selective memory and administrative work with relay of information. As the result, the company reported 20% improvement in sales efficiency.

Simulating call center operations and workflows

Representative data sources

- Call Management Systems (CMS)

Representative technology areas

- Process automation (digital twin and machine learning)

Shared value creation

Individual level
- Better workload management for agents

Team level
- Optimized planning, staffing, and workflows
- Improved utilization for agents

Enterprise level
- Higher customer satisfaction
- Optimized resource costs

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[29]

A telecommunications company was looking for ways to improve the performance of its call centers by enhancing the utilization of its call handling agents, reducing call wait times, and improving customer experience.

Changes in call volumes and work schedules (accelerated by the COVID-19 pandemic) required a more dynamic view of the call center operations, scheduling of agents, and maintaining customer service level agreements.

Solution and approach

By leveraging the Call Management Systems (CMS) data for all their inbound and outbound calls, the company built a digital twin of their call center operations to visualize its live status and performance. The application allowed the user to experiment in real-time, by varying staffing or making operational changes to see the impact on expected performance.

A user could test the impact of different decisions related to work shifts, different ways of routing calls, and sudden surges in demand, on the call center KPIs. The application provided a detailed view of future performance based on current staffing plans, operational setup, and forecasted demand.

Impact

The effort led to resource cost savings ranging from 6% to 14% while maintaining customer satisfaction scores. Also, the new resourcing strategy led to call center efficiency gains of 5%. Driven by the benefits, the solution was rolled out across locations to drive business efficiencies.

Augmenting customer service calls and improving work environment

Representative data sources

- Online chats of resolved customer complains

Representative technology areas

- AI (generative AI)

Shared value creation

Individual level
- Improved work effectiveness
- Personalized real-time coaching
- Reduced stress during long chats

Team level
- Faster learning curve within teams

Enterprise level
- Reduced attrition
- Reduced training costs
- Reduced time to train new staff
- Improved customer satisfaction

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[30]

A Fortune 500 company that provides administrative software for accounting and logistics to small businesses was facing high attrition in their customer support team. Customer service agents resolved customers' queries about the software through online chat windows and not live calls.

Each chat typically lasted about 40 minutes. During these long conversations, customer service agents need to resolve technical queries that are sometimes not straightforward and maintain their composure with difficult customers. This could potentially lead to a stressful work environment and high attrition. As a result, the company had to constantly spend resources on hiring and training new staff.

Solution and approach

The company adopted a generative AI model trained on past conversations between agents and customers, enabling the model to identify common problems faced by customers, potential effective resolutions, and key phrases that resonated well with customers.

Agents were given an AI chat feature with information about the company's software that they can refer to readily during a live conversation. Based on past customer conversations, the chatbot recommends key phrases that have worked well in past conversations.

The application also helped train new hires or less-experienced hires on the best practices demonstrated by the company's top performers.

Impact

With the adoption of real-time and ongoing generative AI conversations, agents were able to troubleshoot more issues per hour and the average productivity of agents increased by 14%. Turnover declined, especially among the new hires as lower-skilled new workers saw more benefits of using the system which shortened their learning curve in the organization.

Customer satisfaction also increased; they gave higher ratings to the staff, and they were less likely to ask to speak to an agent's supervisor.

Improving empathy with clients

Representative data sources

- Calls between case managers and clients

Representative technology areas

- AI (Voice analytics)

Shared value creation

Individual level
- Improved work effectiveness with real- time recommendations and personalized coaching

Team level
- Improved knowledge sharing

Enterprise level
- Reduced call handling duration
- Improved customer satisfaction

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[31]

A short-term disability insurance carrier catered to clients who were experiencing a short-term disability and an interruption in their ability to work. The insurance carrier helped these clients recover and get back to work soon. Through their call quality monitoring application, the insurance carrier learnt that although their disability case managers (DCM) were complying with the organization's processes, their client satisfaction scores were stagnant, and workers' engagement with clients was declining.

Analysis of the data revealed that while the DCMs were communicating accurate information, they were not able to build a rapport with the clients, which the clients perceived as lack of/low empathy. This disconnect between the client and case managers was limiting the case managers' ability to engage clients in programs that could help them heal and return to work soon.

Solution and approach

The company deployed a live application to provide real-time guidance during a call. The application provided visual cues on the screen to the DCMs to: (a) make their communication more succinct to address the clients' needs more promptly and (b) make their communication style more empathetic.

The application also helped with training and onboarding. Earlier, supervisors had to rely on analysis of a subset of the call data, which was also delayed. This application enabled supervisors access to the full conversation dataset, derive insights into their teams' speaking behaviors, and identify, share, and replicate best practices across teams.

Impact

On a regular basis, the application led to a positive impact on both DCMs and clients. By communicating with empathy and succinctness, the DCMs were able to reduce their call-handling time by 23%. The clients' recovery also saw an improvement and the organization saw a 17% improvement in clients returning to work early.

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Finance

Reducing costs, rework, and create space for higher-value work

Finance

Reduce costs, rework, and create space for higher value work

New sources of work data, coupled with traditional analytics and metrics, can provide organizations a more detailed understanding of a variety of costs related to space, labor, wasted time and more. This understanding is helping organizations implement cost reduction efforts and drive advances in automation.

The cases in this section highlight that these cost reductions can create shared value for the workforce by reducing unnecessary work. For instance, limiting noncritical meetings can benefit workers by freeing their schedules to engage in higher-value or more focused work. Similarly, by gaining an evidence-based understanding of where workers are spending time on repetitive tasks, organizations can help automate busy work. Quantified organization use cases illustrate the opportunities to create the finance function of the future. Engagement of workers increases when they're doing the things that energize them and they're good at, which means finance leaders get a win too: more productive and engaged workers, better work, and more value. It means that organizations can adopt technology that can augment the work that only humans can do, helping them do more strategic work that adds value.[32]

As finance leaders look for opportunities to use new sources of work data to reduce costs and optimize spending, they can strengthen these efforts by assuring workers that their data is being used in a transparent and responsible manner.

Automating repetitive work to add more value to worker's work

Representative data sources

- Keystrokes
- Mouse click activity

Representative technology areas

- AI (machine vision)
- Process automation (robotic process automation)

Shared value creation

Individual level
- Increased work effectiveness
- Reduced repetitive work

Enterprise level
- Cost savings through automation
- Compliance with PHI and PII protection requirements

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[33]

A healthcare company was looking to identify opportunities for process automation without disrupting the day-to-day operations. The company's traditional approach for automation involved hiring analysts to observe workers, document work processes, and then identify opportunities for automation.

However, this approach was cost ineffective, disruptive to the day-to-day operations, and had limited scalability. In addition, the organization needed a solution that could comply with its stringent standards for protecting personally identifiable information (PII) and protected health information (PHI) data.

Solution and approach

The company observed workers' desktops unobtrusively using AI applications in the background. The company installed sensors in their workers' desktops (with their awareness and consent), to capture all keystrokes and mouse clicks. The application was able recognize the patterns and repetitive steps that can be automated. Additionally, the application identified redundant steps that can be eliminated in the process.

Whenever the system identified PII and PHI data on the screen, it alerted the worker to mask the sensitive data.

The company maintained open and transparent communication with their workers about the objective of this effort and how it will free them from mundane, repetitive tasks while creating more time for higher- value added efforts.

Impact

The application was able to capture process data without subjectivity, with higher scalability, and faster speed compared to the legacy approach of hiring and onboarding analysts for process analysis.

Automating repetitive work to improve workplace experience

Representative data sources
- Staffing data
- Work hours and leave data

Representative technology areas
- Process automation (process mining and modelling)

Shared value creation

Individual level
- Reduced manual workarounds
- Streamlined processes

Enterprise level
- Cost savings
- Reduction in overtime hours

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[34]

A commercial airline carrier was using a 30-year-old time management software system, developed in-house, for their airport customer service function. The software system often required human interventions and manual overrides to overcome the limitations of the legacy system. For instance, when requesting a day off, workers had to be present on the site to request leave. As a result of such limitations, workers preferred to use manual, paper-based processes over the legacy software system.

The carrier wanted to overhaul its legacy time management software system to meet the evolving needs of their workforce.

Solution and approach

The carrier used process modeling and mining to evaluate its time management processes to document and assess current- and desired-state processes. Through process mining, the airline carrier created a dashboard that illustrated potential for automation in leave requests, approvals, vacation mapping, among others. The carrier incorporated these process improvements while modernizing their legacy time management software system.

Impact

Process automation in the time management system created opportunities for annual savings of $5 million and reduction of staff overtime hours by 30% through flexible staffing.

Automating repetitive work to create time for deep work

Representative data sources

- Mouse click activity

Representative technology areas

- Process automation (Robotic process automation)

Shared value creation

Individual level
- Reduced repetitive work
- More time for deep work

Enterprise level
- Savings in man hours

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[35]

Team members of a telecommunications company often engaged in highly manual processes, such as itemizing expenses and managing attendees for work celebrations. The company was keen on streamlining manual processes and creating more time for value-added activities.

Solution and approach

The company piloted a solution focused on reducing the number of clicks required to access the corporate network, automated meeting room requests, and streamlined invitations that are sent to large groups of workers.

Impact

These process improvements resulted in three million hours saved across 160,000 workers, or 19 hours per worker each year, to focus on core work activities.

Illuminating hidden time costs of non-critical meetings

Representative data sources

- Worker calendars
- HR information system

Representative technology areas

- ONA
- Process automation

Shared value creation

Individual level
- Higher deep work hours
- Improved work effectiveness

Team level
- Reduced collaboration overload
- Streamlined communication
- Improved team effectiveness

Enterprise level
- Savings in work hours

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[36]

An e-commerce company wanted to reduce inefficient, non-critical, and unnecessary meetings. The company wanted their meetings to be intentional and with the right people.

Solution and approach

The company implemented several measures, including removing all recurring meetings with more than two people from workers' calendars and discouraging meetings on Wednesdays at the start of 2023. However, the initiatives did not yield the expected outcome.

The company also wanted to help their workers with a scientific way to assess their time spent on core work and during meetings. They introduced a tool which calculates the estimated cost of the meetings involving three or more participants. The tool, which is embedded in the workers' calendar app, estimates the cost by considering the average compensation data across roles and departments, the number of people attending, and the duration of the meeting.

Impact

The company aims to make their meetings more effective and save 322,000 hours by eliminating 474,000 unnecessary meetings. Average time per person spent in meetings decreased by 14% in 2023 compared to the same period in 2022, time spent in meetings on Wednesdays declined by approximately 26% per person, and 25% more projects were completed in 2023.

Identifying optimal real estate needs and utilization of physical workplaces

Representative data sources

- Workers' office occupancy data

Representative technology areas

- Activity sensors and connected devices (occupancy sensors)
- Process automation (digital twin)

Shared value creation

Individual level
- Optimized workspaces based on actual workforce needs

Enterprise level
- Accurate data-based approach for workspace planning
- Cost savings

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[37]

A railway company wanted to optimize its available space more efficiently when the company moved to a hybrid model.

Solution and approach

The company installed occupancy sensors to detect worker movements, occupancy and space utilization, and used this data to build a digital twin of their operations. Real-time occupancy data feeding into the digital twin can create heat maps and give a visual representation of the space utilization.

The digital twin can also enable what-if scenarios and simulations to make informed decisions about space planning. These simulations can help understand the impact of different layouts on factors such as ease of movement, entry/exit routes, access to workplace assets, exposure to natural light, and other space considerations.

Impact

With this data-driven approach, the company was able to reduce their real estate cost by downsizing their headquarters' building space from five floors to two floors.

Risk and compliance

Automating compliance with internal and external requirements

Compliance is expensive for organizations and time consuming and non-engaging for individual workers. Advances in data collection— such as managing access without passwords and or multi factor authentication—can enable organizations to reduce the time and costs of compliance and limit the burden of this work on workers while simultaneously improving the accuracy of these kinds of efforts. Automating compliance work can also enable workers and the organization to pursue higher value tasks and opportunities.

As the cases in this section illustrate, organizations can apply the quantified organization model to a wide variety of risk and compliance issues. Some cases here illustrate opportunities to use data trails to identify insider threats and related risks. Other cases point toward new tools to enable workers to better manage tax compliance challenges using location data. By increasing the security of the customer's personal data, the organization can create shared value at the societal level while complying with regulations and avoiding the associated fines.

While these tools show promise, it is critical to use them in ways that build trust. For instance, despite the widespread use of location data in phones and consumer devices, our survey found that only 23% of workers were comfortable sharing their location data with their employer, while other technologies, such as facial recognition technologies, can create privacy concerns as well as potential challenges related to bias and accuracy.[38] To address these, organizations should consider collecting this data on an opt-in basis when possible while continually auditing these systems to ensure that they are not producing unexpected errors or challenges.

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Identifying insider risks by picking signals from passive data

Representative data sources

- Workers' access to sensitive data on custom apps

Representative technology areas

- AI (user behavior analytics)

Shared value creation

Individual level
- Protecting individuals accessing sensitive data for legitimate purposes

Enterprise level
- Threat identification
- Risk mitigation
- Regulatory compliance

Society level
- Increased security of customer's banking data

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[39]

A bank wanted to identify sources of insider fraud related to workers accessing sensitive customer data on the bank's custom apps. The bank's legacy fraud detection system provided alerts when workers accessed sensitive customer data but it did not provide context related to data use on these apps.

As a result, the system often generated false positives alerting the threat intelligence team even when workers were accessing or using customer data for legitimate purposes. Some workers needed to access sensitive data for longer periods and the legacy system wasn't sophisticated enough to consider the underlying reasons for accessing this data.

Solution and approach

With the help of a third-party vendor, the bank improved their insider fraud detection program to reduce false positives and accurately identify data misuse by workers. Through past data and AI behavioral analytics, the bank developed baselines about reasonable durations for which workers need to access sensitive data.

The baseline estimates were also layered with additional information about context; access durations and parameters could vary by job descriptions and job levels. The context-based solution alerted the threat intelligence team when a worker accessed sensitive data for a duration longer than the baseline estimates and beyond permitted contexts.

The application also maintained a trail of activity for further evaluations including, information sensitive data being altered or moved to another location by workers.

Impact

With this solution, the bank was able to enhance their threat intelligence and threat mitigation capabilities while meeting regulatory compliance on an ongoing basis.

Enhancing access controls to improve site safety

Representative data sources

- Workers' biometric data

Representative technology areas

- Activity sensors and connected devices (facial recognition and automated attendance report generation)

Shared value creation

Individual level
- Seamless site access/exit to enhance work effectiveness

Enterprise level
- Streamlined access control
- Improved workplace safety through bolt-ons to existing infrastructure
- Realistic project planning and staffing

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[40]

A construction company was looking for a way to verify access of workers (including subcontractors and staff) in their client site. However, the company has limited control over the client's infrastructure including door access, cameras, and entryways.

This was the case in one of their solar project sites in Western Australia where nearly 250 contractors would visit the site daily. The company required all workers accessing the site to complete a check-in process.

As the majority of its staff would enter the site around the same time, it was essential for the check-in process to be fast and efficient to prevent long queues while maintaining the site's safety.

Solution and approach

The company installed a 40-foot sea container with three bidirectional gates for entry and exit that used facial recognition to authenticate the worker's movement.

The worker movement on the site was fast yet secure. The system provided clear visibility about all workers on the site and their entry and exit times for automated attendance reports. Accurate attendance data enabled project managers to gauge real progress on a project (for example, days remaining to completion, workers required, and more) and data across projects could be leveraged for future planning and staffing projections.

Comprehensive data from the site also helped project managers assess situations in case of any accidents or mishaps.

Impact

The solution allowed the organization to improve their business operations by streamlining their site access for the subcontractors and their staff. The modular container access setup allowed the company to install this solution on any customer site.

Leveraging location-based insights to improve compliance

Representative data sources

- Workers' location data

Representative technology areas

- Location intelligence (VPN and location from where work apps are accessed)

Shared value creation

Individual level
- Automatic sharing of location data without the need for active inputs

Enterprise level
- Compliance with tax regulations

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[41]

A social media company offered a remote work policy to all its workers. However, the company observed that workers would often play a geographical paycheck arbitrage–continuing to draw the same compensation while moving to a more affordable location with a lower cost of living.

Early in 2022, the company asked their workers to update their base locations to adjust their salaries according to the local cost of living. In addition to driving a fair compensation structure, the company also wanted to ensure full adherence to local tax laws based on the actual location of their workers.

Solution and approach

The company informed its workers that their location data will be accessed via the company VPN and IP address of devices used to access the company's apps. This passive source of location data provided accurate and real-time information about workers' locations to ensure regulatory compliance.

Impact

This approach enabled the company to adjust compensation structures based on workers' locations. Additionally, this effort can enable the company to improve their compliance to tax laws based on actual location of workers.

Providing the right tools to the workforce to safeguard data

Representative data sources

- Data from collaboration apps

Representative technology areas

- AI (text analytics)

Shared value creation

Individual level
- Better understanding of compliance processes
- Improved satisfaction at work

Enterprise level
- Threat identification and mitigation
- Regulatory compliance

Society level
- Increased data security of customers' data

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[42]

A telecommunications company was concerned about data protection risks associated with the use of instant messaging and collaboration platforms within the organization. The company also wanted to enable functionality to search, analyze, and retain the data to respond to legal or regulatory requests.

Solution and approach

With the help of a third-party vendor, the company discovered that their call center workers stored large volumes of personal identifiable information and payment card industry data on these platforms which could potentially expose the company to a data breach.

An internal investigation revealed that the workers used these platforms as they had no secure alternative solution to keep track of customer information, thereby increasing compliance risks. The company provided a more secure alternative space for workers to store customer information.

The company also implemented an automated compliance adherence feature to scan for sensitive data in messages exchanged on instant messaging platforms used within the organization. This allowed them to alert and coach their workers on compliance and best practices in real-time.

Impact

The company provided more secure tools to the workers, offering data security while allowing them to work more efficiently in their day-to-day work. This approach increased worker satisfaction as they felt heard and seen by business leadership.

With this solution, the company was able to identify and remediate over 20,000 instances where data pertaining to credit cards were shared.

Operations

Optimizing processes and improving workplace safety

Advances in activity sensors and location intelligence, coupled with new tools to analyze data in real-time, are giving organizations improved insight into how workers interact with physical workspaces. Already, organizations are using this kind of data to inform operational performance in office settings, on factory floors, and more.

For instance, analysis of active and passive data generated by workers and machines can reveal how workers are collaborating within the organization and how they are using physical equipment. Data collected through cameras and wearables can highlight areas of improvement to increase the safety of the workers on the production floor by measuring movement and designing ergonomic workplaces. Indoor location services can help workers navigate complex production floors in a safe and efficient way.

As advances in sensing and location technologies continue to emerge, organizations will be able to gain increasingly detailed information about how to continually improve operations at a micro and macro level. As the cases here highlight, organizations will be able to apply these tools to a wide variety of physical settings and operational needs.

Identifying safety infractions

Representative data sources

· Worker movements

Representative technology areas

· AI (computer vision and existing CCTV infrastructure)

Shared value creation

Individual level
· Improved workplace safety
· Targeted trainings

Enterprise level
· Improved operational visibility
· Development of training programs

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[43]

A retailer's distribution center was witnessing an increase in customer orders. The distribution center increased their headcount to manage the growing demand, but they wanted to ensure the safety of the workers and minimize any safety incidents.

Solution and approach

The company integrated AI with their CCTV systems at the distribution center, helping their health and safety teams to identify unsafe events. The solution was able to autonomously capture unsafe events while allowing the team to see exactly what occurred.

Events were flagged to safety officers and by analyzing the patterns, the team was able to educate their workers about any behaviors that could be potentially dangerous.

It also allowed the safety team to replay the unsafe events and behaviors to the workers and launch specific trainings to address core behaviors.

Impact

After implementing this system, the company saw a reduction of 80% of safety incidents in the warehouse in the first three months. Additionally, near miss reporting increased by 10% due to increased operational visibility.

The company was able to continuously detect safety infractions and ensure that the training and onboarding of additional workers is as expected to train them for the job.

Improving visibility in supply chain operations

Representative data sources

- Video footage of drivers' routes

Representative technology areas

- AI (computer vision and cameras)

Shared value creation

Individual level
- Increased workplace safety

Enterprise level
- Risk mitigation
- Asset safety

Societal level
- Improved safety on the road

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[44]

An e-commerce company wanted to increase the safety of their delivery service drivers, who are responsible for the company's last mile deliveries.

Solution and approach

The company equipped its delivery vans with AI enabled cameras in the vehicles of their contracted delivery drivers to increase the safety of their operations. The cameras recorded the drivers' routes and with the help of AI, flagged any safety infractions such as speeding, distracted driving, and failure to stop at stop signs.

The system, which consists of four lenses, captures the road, the driver, and both sides of the vehicle and consists of an AI program capable of detecting 16 different safety issues. Certain violations can also trigger an audio alert for the driver highlighting instructions such as "maintain safe distance" or "please slow down."

The cameras record 100% of the time but upload the footage to a secure portal only if the worker engages in any unsafe driver behavior. The system requires an opt-in consent from the driver and records only video; it does not record audio. Drivers can switch off the cameras during break times.

Impact

As a result of the ongoing effort, accidents declined by 48% and the number of drivers not using seatbelts was reduced by 60%. Stop sign violations were also reduced by 20%, and distracted driving saw a decline of 45%.

Using field data and predictive analytics to improve business operations

Representative data sources

- Drivers' navigation data

Representative technology areas

- Process automation

Shared value creation

Individual level
- Work effectiveness

Enterprise level
- Optimized routes
- Increased service coverage
- Time savings

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[45]

A waste management company's truck drivers followed routes assigned by route analysts and dispatchers based on a variety of factors. However, drivers often deviated from the identified route based on personal preferences or their familiarity with the area.

Solution and approach

The company developed a route-optimization tool based on historical data about routes and time taken and current road and traffic conditions.

The tool helped the company reduce the miles driven and the required time to complete each route. Drivers were also provided a monetary incentive to follow their assigned route.

Impact

Data indicated that route optimization saved an average of 30 minutes per route compared to previously used manual approaches. Time savings enabled drivers to service six dumpsters per shift compared to five before the pilot while improving the company's dispatch efficiency.

Using wearables to measure physical activity and safety in the workplace

Representative data sources

• Workers' arm movements

Representative technology areas

• Activity sensors and connected devices

Shared value creation

Individual level
• Increased workplace safety
• Personalized trainings

Enterprise level
• Increased operational visibility
• Development of safety training programs

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[46]

The meat industry typically has one of the highest injury rates in the US. The repetitive, fast, and taxing nature of cutting and packing meat increases the risk of injuries among workers. A meat processing company was looking for ways to reduce workplace injuries resulting from repetitive heavy movements.

Solution and approach

The company launched smartwatch-like wearables to detect workers' movements to identify the need for any ergonomic changes. Sensors on the wearables collected data on the force, rotation, speed, and directional movement of a worker's arm.

An AI algorithm analyzed the data to determine if the movement was safe. Sensors also detected when a worker was dehydrated and needed a break. What qualified as a safe behavior depended on the job description and was customizable in the algorithm. Individual as well as aggregated data was visualized on a dashboard displaying safety metrics which was analyzed by supervisors.

The solution was implemented after seeking permission from and building trust with the workers' unions.

Impact

Before the solution, the company did not have a scientific and systematic way to identify unsafe behaviors. By integrating this solution as a part of their business operations, the company was able to drive better safety in the workplace, implement focused trainings for workers, and build trust with the workers' unions.
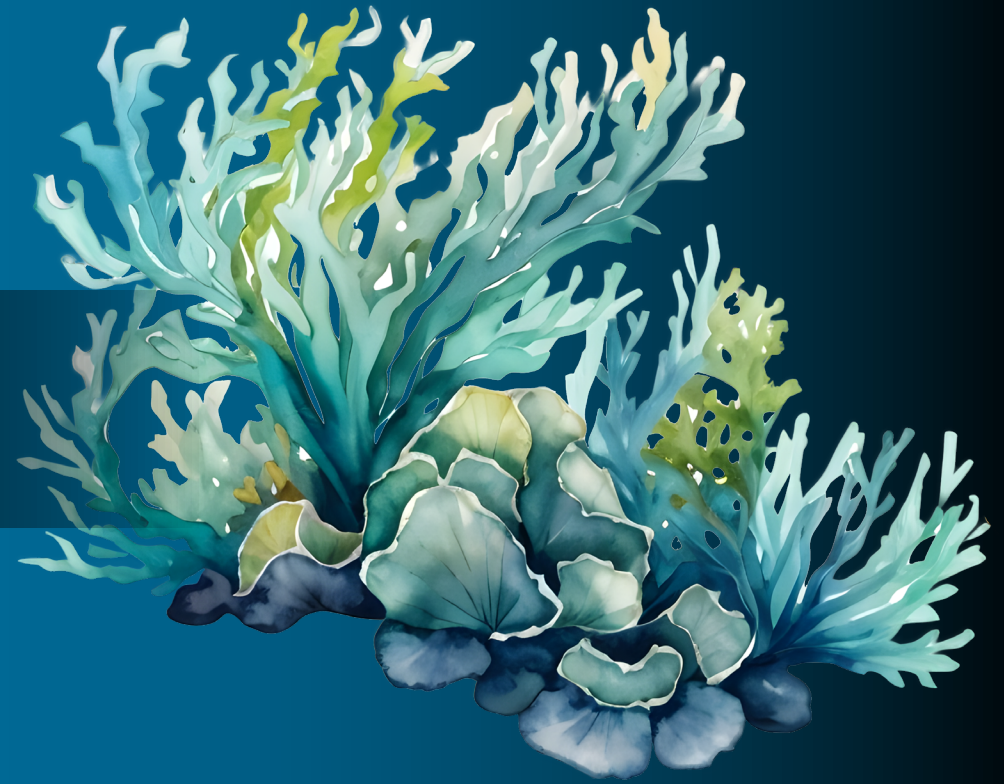
Climate change and sustainability

Reducing carbon footprint of processes, people, and ecosystems

In recent years, many organizations have begun making ambitious, long-term commitments to lower emissions and improve the overall sustainability of their operations. However, climate support goals and the progress against those goals needs to be quantifiable. Organizations can utilize existing and emerging sources of passively generated work data, in combination with traditional data sources, to support these efforts.

These efforts to reduce emissions are illustrative of the ways in which passive work data can be used to create shared value for multiple stakeholders. For instance, optimizing the use of physical space - and reducing unnecessary power consumption - can lower an organization's carbon footprint while also reducing the costs of operating facilities. In some cases, these kinds of analyses of emissions can be provided to workers themselves to engage them in sustainability efforts. According to Deloitte's report, *Economic uncertainty puts pressure on sustainable behavior change*, nearly one in every two workers surveyed globally, cite improved morale as a key benefit of their company's focus on sustainability efforts.[47]

By leveraging these advances, organizations have an opportunity to create shared value for society by reducing the carbon footprint and impact of businesses on the environment.

Installing smart systems while creating a differentiated workplace experience

Representative data sources

- Occupancy data
- Worker calendars

Representative technology areas

- Activity sensors and connected devices

Shared value creation

Individual level
- Differentiated workplace experience
- Improved affinity to a sustainable brand

Team level
- Improved collaboration and knowledge sharing

Enterprise level
- Reduced energy consumption
- Savings in utility costs
- Enhanced brand reputation

Society Level
- Sustainable business operations

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[48]

A real estate development company was keen to develop an office space incorporating sustainability and technological innovations in the facility while delivering a personalized workplace experience for workers.

Solution and approach

The company installed nearly 30,000 sensors within the office building to detect motion, light, temperature, and humidity. These multiple readings related to occupancy and usage were aggregated on a centralized dashboard that was updated in real-time through connected systems. If fewer professionals arrive on any day, the company can shut down an entire section to save costs and efforts of cleaning, lighting, cooling, and heating, thereby reducing their carbon footprint and associated costs.

Activity sensors also enabled smart cleaning systems involving both human janitors and robots to clean areas (workstations, meeting rooms, and more) based on actual usage assessed through occupancy and temperature sensors. Furthermore, solar panels installed on the building generated more energy than the building consumed.

In addition to driving sustainable operations, smart systems also supported workers. An app can check a worker's calendar and schedule, direct their car to an available parking spot, and reserve a desk for them. It can also adjust the light and temperature settings of select areas in the office based on worker's preference.

Impact

These innovations enabled the office building to meet its climate change goals without compromising the workplace experience. Workers were very appreciative of assistive technology related to parking, desk booking, and personalized light and temperature settings. The building redesign enhanced collaboration among workers through an open layout conducive to chance interactions.

Helping workers measure their work-related carbon footprint

Representative data sources

- Business travel data from travel reservation systems

Representative technology areas

- Process automation

Shared value creation

Individual level
- Reduced carbon footprint
- Improved affinity to a sustainable brand

Enterprise level
- Reduced food wastage
- Progress against sustainability targets

Society Level
- Sustainable business operations

Use case maturity

Exploratory	Emerging	Maturing

Key challenge[49]

A technology company had set a goal of reaching net-zero emissions across their value chain by 2030 and was looking for ways to measure and reduce its scope 3 emissions. Scope 3 emissions are generated across the company's supply chain and are typically difficult to track but can also be the largest category of emissions. Scope 3 emissions result from activities or assets not owned or controlled by the organization but are generated during the course of business throughout the value chain.

The company wanted to empower their workers to understand and participate in the work that is required to reduce scope 3 emissions across their business.

Solution and approach

As a pilot, the company worked with a vendor to track emissions from activities such as business travel, including air travel, ground transportation and hotels. The platform also analyzed the food that the company was purchasing for their workers through suppliers and the associated waste.

The platform provided recommendations for workers' commute, and the energy consumption in remote and hybrid work. These recommendations could be customized at a functional level (i.e., engineering, finance, procurement, marketing, human resources, and event management) depending on team needs.

The company, built consensus and support with their workforce in this effort by identifying and connecting with key influencers within the organization who socialized this effort with other workers.

Impact

The solution was offered to workers who opted in. With this solution, the company was able to measure their scope 3 emissions and regularly nudge their workers about responsible climate choices and behaviors.

Assessing and offsetting emissions related to remote and hybrid operations

Representative data sources

- Workers' usage of utilities
- Worker surveys

Representative technology areas

- Process automation (carbon emissions calculation models)

Shared value creation

Individual level
- Personalized recommendations for energy savings

Enterprise level
- Improved visibility about emissions across the value chain
- Progress against sustainability targets
- Broad-based climate literacy among the workforce

Society Level
- Sustainable business operations

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[50]

An investment management company planned to reduce its emissions from energy usage by 50% by 2030. As they transitioned to a remote work model during the pandemic, reduction in air travel brought the company's emissions down drastically. However, relying on emissions reductions resulting from curtailed air travel wasn't going to be enough to meet the climate goals.

An analysis of sources of emissions revealed that workers working from home generated 55% of the company's total carbon footprint. The company wanted better visibility of emissions generated as a result of working from home so that they could offset the same.

Solution and approach

The company worked with a vendor specializing in carbon footprint estimations. The vendor provided an app that interested workers could sign up for. The application would ask workers questions about their energy usage at home. Workers could also upload their water, heating, or electricity bills on the application. This data was not shared with the employer.

Based on the utility usage data, the application would calculate an aggregated carbon emissions score that was shared with the company. The higher the number of workers participating in the program, the higher the accuracy of the score calculated by the algorithm would be.

Impact

Based on the responses workers provided, the application gave personalized recommendations (such as turning down the thermostat and switching to plant-based meals among others) to nudge workers to adopt conscious choices and responsible behaviors.

Seeing the benefits of broad-based climate literacy among the workforce, the company continued to leverage this program to assess their carbon footprint as they transitioned from a remote to a hybrid work model.

Deploying use-based cleaning for more sustainable operations

Representative data sources

- Worker occupancy data

Representative technology areas

- Activity sensors and connected devices (occupancy sensors)

Shared value creation

Enterprise level
- Cost savings

Society level
- Sustainable cleaning practices

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[51]

A bank employing about 83,000 professionals was looking for ways to make their cleaning operations more sustainable in support of their ESG goals. To do so, the bank wanted to enhance the functionality of their Computer Aided Facility Management (CAFM) system – a software solution that helps organizations manage their physical spaces and assets.

Solution and approach

The bank integrated occupancy sensors in their CAFM system to understand real-time usage of their office spaces and identify areas that aren't frequently being used by workers. Based on insights related to actual space utilization, the bank switched to use-based cleaning routines, thereby lowering their cleaning frequency by 33%.

Impact

After implementing these changes, the bank was able to reduce their cleaning costs by 50%, thereby saving $2 million annually.

DEI

Identifying and mitigating hidden biases

In Deloitte's 2023 Global Human Capital Trends survey, 86% of business leaders surveyed said that embedding DEI into everyday ways of working and teaming while measuring outcomes is important or very important to their organizations' success. However, only 25% feel they are ready to address the issue.[52]

Organizations have an opportunity to identify and address nuanced issues related to DEI by specifically measuring the extent to which workers experience equity and belonging as a result of diversity, inclusion, and addressing the root causes of inequity in the workplace. Organizational network analysis can help identify potential hidden biases — in decision making related to hiring, layoffs, career progression, global mobility, and access to leadership. By identifying and mitigating hidden biases using passive technology, organizations can work toward equitable outcomes within their value chain benefiting the society at large.

Having a more current view into recruitment efforts

Representative data sources
- Recruitment pipelines/reports
- HR information systems

Representative technology areas
- Process automation

Shared value creation

Team level
- Improved data-driven decision making

Enterprise level
- Accurate and timely reporting on DEI metrics
- Focused efforts on hiring diverse talent

Society level
- Equitable employment opportunities

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[53]

A pharmaceutical company relied on manual reporting of DEI metrics for its workforce composition and recruitment efforts. This approach was time consuming.

Given high worker turnover, the metrics would already be outdated by the time the reports were ready for leadership review. The company was looking for an automated approach for reporting of DEI metrics to enable on-demand access in a timely way.

Solution and approach

The company worked with a third-party people analytics solution provider to merge multiple data sources to build comprehensive storyboards to visualize the organization's progress against its metrics in real-time. This automated approach enabled leaders to be well-informed about their current and planned headcount, and recruitment and talent acquisition reports, which was difficult earlier.

Impact

Due to these automated reports, the talent acquisition leaders and business leaders within the organization got the real-time visibility they needed to evaluate diversity outcomes across the hiring lifecycle while minimizing manual efforts. The single-view dashboard also enabled meaningful conversations within the organization on ongoing talent initiatives.

Providing personalized coaching to marginalized groups for career enhancements

Representative data sources

· HR databases
· Learning and development data

Representative technology areas

· AI (data models and analytics)

Shared value creation

Individual level
· Improved psychological safety
· Developing leadership skills

Enterprise level
· Improved readiness of diverse leaders

Society level
· Building an inclusive pipeline of future leaders

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[54]

A cloud computing company wanted to support their leaders from underrepresented identity groups (people with disabilities, people of color, caregivers, and women) with resources and training for career advancement.

Solution and approach

The company offered AI-enabled personalized coaching to its leaders encompassing areas such as communication, self-awareness, and other leadership skills. The program was designed to help leaders to create safe spaces for their teams and guide difficult conversations.

Impact

Leaders who leveraged this coaching program reported 11% increase in sense of belonging.

Tracking and addressing harassment on digital platforms

Representative data sources

· Work instant messaging/collaboration platforms

Representative technology areas

· AI (text analytics)

Shared value creation

Individual level
· Increased psychological safety
· Increased work effectiveness

Team level
· Improved work culture

Enterprise level
· Stronger brand reputation
· Reduced risks and costs of litigations

Societal level
· Increased workplace safety for identity groups

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[55]

The HR team of a social enterprise foundation wanted to track and address harassment and bullying on their digital platforms. The company wanted to identify and address harassment before it became a problem while implementing a more thorough system to conduct investigations.

Solution and approach

The company implemented a third-party tool that enabled them to identify messages or language along with the context. This real-time visibility helped the HR and legal team launch more timely and deeper investigations.

Impact

The system provided a continuous and automated way for the company to analyze and improve the organizational culture in the digital environment. Additionally, the analysis also helped the HR team design coaching programs to reduce harassment on the company's digital platforms.

Well-being

Targeting investments in well-being programs that work

Worker well-being highlights the importance and potential of shared value creation. Improved well-being benefits workers, of course, but research increasingly links worker well-being to benefits for the organization. For instance, one study found that happy workers are 13% more productive than unhappy workers, suggesting that investments in well-being, targeted appropriately, can benefit stakeholders at multiple levels of the organization.[56]

Unfortunately, while organizations may be investing more in well-being, they often are not reaping the benefits. For instance, Deloitte's 2023 *Well-being at work* survey of over 3,000 professionals found that even though organizations are investing more heavily in the well-being of their workforce, many workers are struggling with unacceptably low levels of well-being with many workers reporting that well-being had either stayed the same or worsened in the prior year. Because of this, and despite increased investments in well-being, many workers feel that organizations are not doing enough to support them. And in turns out that workers underutilize wellness benefits. In one study, more than two-thirds (68%) of workers surveyed said they did not use the full value of the well-being resources offered by their organizations because accessing programs was either too time-consuming, confusing, or cumbersome.[57]

Leadership should identify and address the underlying factors for low levels of well-being within the organization before introducing any new well-being programs. For instance, the effectiveness of any program may be limited if workers are overburdened with work and do not have time to utilize the well-being initiatives being offered.

The case studies in this section point toward opportunities for organizations to begin to address this challenge. Adding passive data to traditional surveys and tools enables organizations to gain a near real-time perspective on hidden causes and underlying factors that are reducing worker well-being. From there, organizations can better target investments in helping workers manage their workloads, reduce stress, and improve financial security.

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Automating nudges to encourage periodic time-off to reduce worker burnout

Representative data sources

- Worker engagement surveys
- Worker interviews
- HR information systems

Representative technology areas

- Process automation

Shared value creation

Individual level
- Reduced burnout and stress
- Improved psychology safety while taking time off

Enterprise level
- Improved worker satisfaction

Use case maturity

Exploratory	**Emerging**	Maturing

▲

Key challenge[58]

A technology company had a standard accrual-based time off policy–offering workers the ability to take 16 days as paid vacation days and nine days of sick leave. However, workers rarely used the full leave allowance.

The company conducted a worker engagement survey and learned that workers were confused with keeping track of accrued days and days used. Workers were more interested in a more free-flowing time off policy.

Solution and approach

The company made a couple of changes to encourage workers to remember to use their vacation time. For instance, they started providing workers with automated reminders to take leave and sent virtual nudges to a worker— and their manager— if that worker had taken less than a week of time off in a given quarter.

In addition to sending reminders to take leave, the company also automated the leave approval process with in-built checks and balances to maintain business continuity. Specifically, the system flagged any requests for time off that provided less than one week notice per one day off but otherwise automatically approved requests. And the company continued to handle parental leave requests using separate systems.

Before rolling out the enhanced leave policy to the entire organization, the company reviewed the policy with select workers and incorporated their feedback in the policy changes.

Impact

The company witnessed a 28% increase in the time off usage since the inception of this effort. Additionally, about 95% of the workers agreed or strongly agreed with the statement, "I'm happy with our flexible time off policy."

Creating time for deep work

Representative data sources
- Worker calendars
- Work emails

Representative technology areas
- ONA

Shared value creation

Individual level
- Improved well-being
- Increased work effectiveness
- Reduced collaboration overload

Team level
- Streamlined collaboration

Enterprise level
- Increased worker satisfaction

Use case maturity

Exploratory	Emerging	**Maturing**

Key challenge[59]

Product management team members of a technology company were reporting to management they had limited time to do deep thinking work. The organization measured the time workers spent collaborating versus focus time and discovered that most workers spent most of their day in back-to-back meetings.

Solution and approach

The product management function hypothesized that a weekly team-wide meeting block would free up more time from meetings, so they launched a weekly "No meeting Friday" initiative. However, the weekly "No meeting block" caused a bottleneck. Data indicated after hours work increased, specifically on Thursdays and Mondays.

As a result, the product management function adjusted and established a monthly "No meeting Friday" instead of a weekly initiative.

Impact

The monthly cadence of "No meeting Friday" resulted in an increase in the proportion of meetings that ended on time with a decline in overall time spent in meetings. The effort also helped create an overall environment where workers were nudged about the need to optimize meeting agendas, durations, frequencies, and attendees.

Supporting workers in their financial well-being journey

Representative data sources

· Worker surveys

Representative technology areas

· Process automation (data models and nudges)

Shared value creation

Individual level
· Personalized coaching on financial well-being

Enterprise level
· Reduced attrition
· Improved worker satisfaction

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[60]

A technology conglomerate conducted an analysis that revealed that 83% of their workers were expected to fall short of their pension targets during retirement. This could lead to a risk of a disengaged ageing workforce while limiting career pathways for the next line of leadership.

As such, the company wanted to support their workforce in their financial well-being journey.

Solution and approach

The company worked with a third-party financial education platform to provide localized interactive learning modules and tools which the workers can access for flexible and ongoing financial well-being support.

The company also delivered virtual masterclasses to their workers through the pandemic and beyond to build financial resilience and better manage the cost of living.

Additionally, to help with retirement planning for their workers, the company developed and sent nudges for effective planning personalized by age, compensation, pension contributions, and other considerations.

Impact

After the implementation of the program, the company witnessed an increase in pension contributions by about a third of employees and majority of the employees were on course to meet 100% of their pension targets.

Enhancing work environments based on neuroscience and passive data

Representative data sources

- Worker movements
- Worker calendars
- Work emails

Representative technology areas

- Activity sensors and connected devices (EEG sensors)

Shared value creation

Individual level
- Improved well-being at work

Team level
- Improved collaboration
- More optimal ways of working and collaborating

Enterprise level
- Improved work effectiveness

Use case maturity

Exploratory	Emerging	Maturing

Key challenge[61]

A real estate services company collaborated with a bioinformatics company to study how neuroscience can be leveraged to improve work experience and effectiveness.

Solution and approach

The company measured the cognitive and emotional states of workers using electroencephalography (EEG) sensor embedded headsets to analyze how workers' brains react to different working environments. The technology enables the company to uncover what environmental factors people respond well to, when workers are losing attention, or reaching counterproductive levels of cognitive stress.

Through these studies, the company intended to uncover which factors contributed towards optimal work experiences: working alone or with a team, ideal factors for collaboration, best time to take breaks, and more.

By scanning the brain activity of volunteer workers over a two-day workshop, the company observed that the workers were 12% more engaged while collaborating in the morning than working alone. Their cognitive load, i.e., the work workers' brains were doing, was also 10% higher in the morning as compared to afternoon. Participants performed 18% better on an individual task when they worked around peers.

Boredom among workers increased by 6% when they were working in a physical space that did not match their preferences.

Impact

With these insights, the company aims to create a better work environment and educate their managers about optimal ways of working and collaborating within teams.

Quantifying body movements to design ergonomic workplaces

Representative data sources

- Worker body movements

Representative technology areas

- Activity sensors and connected devices (smart bodysuit and motion cameras)

Shared value creation

Individual level
- Increased workplace safety
- Targeted training
- Increased ergonomics

Team level
- Improved team performance with fewer injuries

Enterprise level
- Improved workplace environment

Use case maturity

Exploratory	**Emerging**	Maturing

Key challenge[62]

An automotive manufacturer was looking for ways to make their production environment conducive to workers' health and well-being.

Incorrect ergonomic assessments can increase the risk of repetitive strain injuries, which can be a common problem for workers on production lines. Making adjustments to the way workers move can result in huge benefits to physical and mental well-being of workers on the production lines.

Solution and approach

The company launched a pilot at their engine assembly plant in which 70 workers used a special bodysuit to track their body movements. These suits were equipped with 15 sensors to track and measure the movement of head, neck, shoulder, and limbs.

The movement was recorded by four specialized motion-tracking cameras. These data points were analyzed by ergonomists who coached workers on maintaining the right postures and advised organizational leaders to design workstations in an ergonomic way.

The real-time tracking allows the company to proactively avoid an ergonomic issue before it becomes a potential injury. These insights could also enable the organization to customize the workstation for every individual.

Impact

By layering these enhancements on to the plant's existing safety program, the company launched its new engine program with improved safety standards.

The company modified equipment according to the system's insights for some workers while specific training was provided to workers to ensure that they know the right way to perform repetitive movements on an ongoing basis.

Conclusion

In the coming years, organizations will continue to see an increase in the variety and value of new data sources—generated by workers as they work–that can be useful to build the quantified organization. As the cases in this report illustrate, these opportunities span across a broad range of organizational functions and domains and can be implemented to create shared value for workers, teams, the organization, and society as a whole. While some elements of data collection and usage are likely to be set and driven centrally and enterprise-wide, the cases in this report illustrate that organizations can move swiftly by empowering functional and domain leaders to implement these kinds of work data efforts.

Even as they attempt to move quickly, global organizations need to be particularly mindful of national, regional and local laws and regulations as they scale their quantified organization efforts. It is important to note that the collection and use of passive workforce data is often subject to local regulation and is increasingly being impacted by jurisdictions and regulatory requirements such as those of GDPR in Europe. This shifting regulatory landscape highlights the importance of working closely with legal and human resources teams to navigate ongoing compliance challenges.

In addition to meeting legal requirements, organizations can benefit by focusing on implementing data collection efforts in responsible ways that strengthen worker trust. Executives and workers are largely aligned in the use of work and worker data for strategic business outcomes such as workplace safety, improved collaboration and communication, organizational growth, worker satisfaction, and trust. Our research suggests that when organizations handle work and worker data in a responsible manner, it helps improve trust with workers, customers, and other stakeholders and can open new opportunities to achieve competitive advantage.[63]

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Endnotes

1 What is **Organizational Network Analysis (ONA)?**, Rob Cross.

2 Nitin Mittal, Irfan Saif, and Beena Ammanath, '**State of AI in the Enterprise' Fifth Edition Uncovers Four Key Actions to Maximize AI Value**, Deloitte, 2022.

3 Nitin Mittal, Costi Perricos, Lynne Sterrett, and Deborshi Dutt, **The Generative AI Dossier,** Deloitte, 2023.

4 Lakshmi Gopal and Sucheth, **What is business process automation and how to get started?**, Nano Net Technologies Inc., July 21 2023.

5 **How Does Real-Time Indoor Employee Location Tracking Work?**, Sewio Networks s.r.o..

6 **How Data Warehousing is Revolutionizing HR,** KnowledgeCity.

7 Bruce Marable, **Overcoming the Challenges of Understanding HR Data**, SHRM, April 6 2022.

8 Deloitte, Quantified organization global survey, 2023. Between May and July 2023, Deloitte surveyed 1,000 executives (C-Suite or President level, Vice-President, and Director-level) and 1,000 employees (senior managers and professional staff/employees) from global organizations across nine different countries. These were equally split between North America (Canada, US and Mexico), EMEA (UK, Germany, and France), and Asia Pacific (Australia, India, and Japan). Deloitte engaged in a series of estimation/classification models based on logistic regression to better understand the effects of trust. Controlling for a number of demographic and work-related variables, respondents with the lowest levels of trust in the organization's approach to the management of worker data are nearly 50 percentage points (out of 100 percentage points) less likely than respondents with the highest levels of trust to agree that the company will experience increases or significant increases in business growth.

9 Deloitte analysis based on literature review and discussion with subject matter specialists in multiple functional and domain areas ; Nitin Mittal, Irfan Saif, and Beena Ammanath, **Trustworthy AI**, Deloitte, 2022.

10 Art Mazor, Steve Hatfield, Philippe Burger, Simona Spelman, Nic Scoble-Williams, and Robin Jones, **Beyond productivity: The journey to the quantified organization**, Deloitte, May 2023.

11 Beatriz García Fernández-Viagas, **The Right to Disconnect from work: Soon a reality in Europe**, Enhesa, October 28 2021. ; **General Data Protection Regulation (GDPR)**, GDPR.EU.

12 Quantified organization global survey, Deloitte, November 2023.

13 Phil Muncaster, **Employee monitoring: Is 'bossware' right for your company?**, ESET, June 29 2023.

14 Quantified organization global survey, Deloitte, November 2023.

15 **How long you should retain employee data under GDPR**, Brightpay, April 2018.

16 Katherine Pendrill, **Barista-Crafted Beverages**, Trend Hunter, October 19 2016.

17 Deloitte client solution

18 **Global Oil & Energy Company Improves Culture & Retention Through Office Redesign**, Humanyze, September 2021.

19 Phil Wainewright, **Cloverpop shines light on how to improve enterprise decision making**, diginomica, October 17 2018; Cisco Decision Innovation Case Study, Cloverpop.

20 Deloitte client solution

21 Deloitte client solution

22 James Swanson, **Building a learning culture with AI**, The Enterprisers Project, May 23 2022.

23 Manpreet Randhawa, **The Benefits of Combining Traditional Employee Feedback with AI and Machine Learning**, Insight222, July 7 2023 ; Gianni Giacomelli, **We need a (smart) virtual watercooler**, LinkedIn, August 18 2021 ; Garima Bora, **This chatbot is helping HR identify unhappy employees before they quit**, Economic Times, August 28 2019.

24 **European Bank Increases Branch Sales by 11% to $1 Billion Through Better Workplace Design**, Humanyze.

25 **A U.S. Bank Improves Call Center Productivity and Worker Retention**, Humanyze. ; Lynn Stuart Parramore, **Happy All the Time**, Lapham's Quarterly. ; Ron Miller, **New Firm Combines Wearables And Data To Improve Decision Making**, Tech Crunch, February 24 2015.

26 Oznur Alkan, Elizabeth Daly, Inge Vejsbjerg, Opportunity Team Builder for Sales Teams, Proceedings of the 2018 international conference on Intelligent User Interfaces. ACM, March 2018.

27 Greg Rosalsky, **This company adopted AI. Here's what happened to its human workers**, NPR, May 2 2023.

28 **Sky's the limit: How Corporate Traveler uses Gong to refine their customer journey**, Gong.io Inc.

29 Deloitte client solution ; **How twin tech is helping _VOIS design a new future**, Deloitte, 2020.

30 Greg Rosalsky, **This company adopted AI. Here's what happened to its human workers**, NPR, May 2 2023.

31 **Improving Member Engagement in Disability Insurance,** Cogito, December 2020.

32 Jonathan Pearce, Jessica Bier, Casey Caram, Beth Kaplan, Dorthe Keilberg, Priya Ehrbar, and Taylor Grow, **The finance workforce of now**, Deloitte, 2022.

33 Doug Henschen, **Innovation Team Gets Smarter About Process Automation and Optimization**, Automation Anywhere, February 1 2022.

34 Deloitte client solution

35 Deloitte client solution

36 Michael Grothaus, **Leaders, your workers probably hate meetings. But teams can measure their true cost**, Fast Company, July 12 2023 ; Gabriela Riccardi, **If you want fewer meetings, measure them in cash**, Quartz, July 12 2023.

37 **Empathic Building digital twin for VR Group**, Haltian.

38 Quantified organization global survey, Deloitte, November 2023.

Endnotes

39 **Fortune 500 Financial Institution Builds Insider Fraud Solution to Protect Customer Data and Meet Regulatory Compliance**, Teramind.

40 **Revolutionising Site Access Control with Innovative Solutions**, Monford Group Pty Ltd, 2023.

41 Robert Freedman, **Should CFOs let remote employees play 'paycheck arbitrage?'**, CFO Dive, December 8 2020.

42 **Helping a Telecom Provider Investigate and Safeguard Confidential Data**, Aware.

43 Charlotte Healy, **UK: AI's Impact on Workplace Safety**, SHRM, June 2 2023.

44 Annie Palmer, **Amazon is using AI-equipped cameras in delivery vans and some drivers are concerned about privacy**, CNBC, February 2023 ; Rosie Perper, **Amazon is Asking Delivery Drivers to Consent to Having Their Biometric Data Collected**, Hype Beast, March 24 2021.

45 Deloitte client solution

46 Tatyana Woodall, **Big Meat Companies Want to Use Smartwatches to Track Workers' Every Move**, Vice, November 2 2022.

47 Leon Pieters, James Cascone, Derek Pankratz, and David R. Novak, **Economic uncertainty puts pressure on sustainable behavior change**, Deloitte, July 25 2023.

48 Tom Randall, **The Smartest Building in the World**, Bloomberg, September 23 2015.

49 Matthew Parsons, Climate Impact Moves From Marketing to Operations, Skift, January 10 2023 ; **Finally, a platform for companies to track and cut emissions**, Meetings & Conventions Asia, October 7 2022.

50 Margaret Taylor, **Your company needs to go carbon neutral. Its next target is your dodgy boiler**, Wired, 2021.

51 **Global bank leverages occupancy intelligence to save $2M annually by automating cleaning workflows**, Vergesense.

52 Christina Brodzik, Joanne Stephane, Devon Dickau, and Nic Scoble-Williams, **Taking bold action for equitable outcomes**, Deloitte, January 9 2023.

53 **Using people analytics to improve diversity recruiting strategies**, One Model.

54 **2023 Diversity, Equity and Inclusion Report**, VMware, 2023.

55 **Actively Reducing Harassment in the Workplace**, Aware.

56 **Happy workers are 13% more productive**, University of Oxford, October 24 2019.

57 Jen Fisher, Paul H. Silverglate, Colleen Bordeaux, and Michael Gilmartin, **As workforce well-being dips, leaders ask: What will it take to move the needle?**, Deloitte, June 20 2023.

58 Amber Burton and Paolo Confino, **A startup mandated that workers take off at least 20 days a year. Worker satisfaction soared**, Fortune, June 27 2023.

59 Deloitte client solution

60 **Motivating 2,500 employees to increase pension contributions,** Nudge.

61 **The Workspace of the Future: Your Mind**, JLL, November 1 2022; **5 things neuroscience reveals about how we work**, JLL, December 5 2022.

62 Maddy White, **Ergonomic technology used in sports improves manufacturing**, The Manufacturer, August 14 2018.

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