Reimagining Employee Experience

Executive Summary

The COVID-19 pandemic has accelerated the organization effort to adopt smart digital workspaces and remote work models[15]. Even before remote work became the new normal, employee experience was a keen area of interest for high performing organizations. Employee experience is the new battleground for organizations who want to actively engage employees and improve their productivity, thus leading to a competitive edge. Employee-first organizations have a laser-sharp focus on employee-friendly policies, digital workplaces and employee metrics. The battle to win the minds and hearts of employees is quintessential for high performing organizations.

The employee experience landscape is changing quickly; various aspects of employee experience such as collaboration, user experience, process automation and mobile enablement are changing in rapid pace. Organizations strive to provide employee-centric and compelling experiences to attract and retain talent. An effective employee experience becomes the strategic competitive advantage for an organization.

Based on extensive research, we explore a comprehensive optimization strategy for employee experience in this whitepaper. We explore the employee experience from various dimensions to get a 360-degree view of the optimizations. We shall look at the ways to optimize the phases and dimensions of the employee journey, the building blocks and the digital workplace strategy. A digital workplace or an employee experience platform is a quintessential element of any successful employee experience strategy. Hence, we explore the digital workplace strategy, framework and platform principles in detail.

The whitepaper is beneficial for CXOs, architects and digital practitioners.

Introduction

Employee experience (abbreviated as EX) is 'a set of perceptions that employees have about their experiences at work in response to their interactions with the organization.'[3] Employee experience is all about engaging the employee through consumer-grade applications. Providing an efficient and engaging employee experience results in high productivity, thus leading to a definitive competitive edge for the organizations. The overall work satisfaction, productivity, retention are all closely related to the employee experience. Employee experience also doubles the overall customer satisfaction[52]. A robust employee experience strategy is required to attract and retain talent, improve overall productivity and employee satisfaction, and innovate better. The overall employee experience includes moments of truth such as receiving manager feedback, leadership communication, seeking out help, manager interactions etc[55].

We shall examine the evolution, challenges and trends of EX, to understand its dynamics better. This lays the foundation for the optimization strategy and building blocks for EX that we will discuss in the future sections.

Trends in employee experience

Technology is redefining the way we work. The demographics of the workforce, work duration, access devices, collaboration model and employee expectations have all changed drastically in the last five years. We have depicted the key trends shaping the employee experience in Figure 1
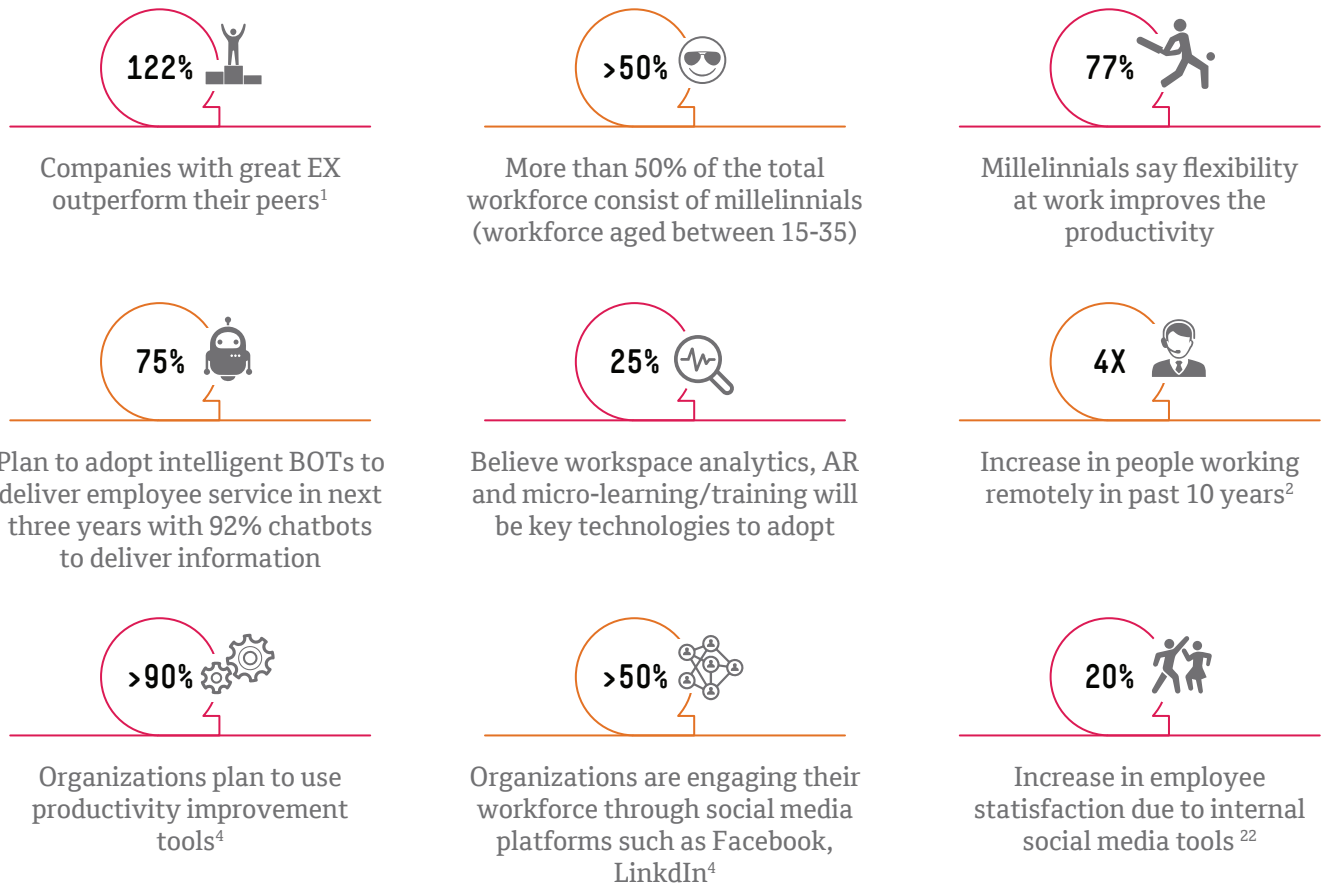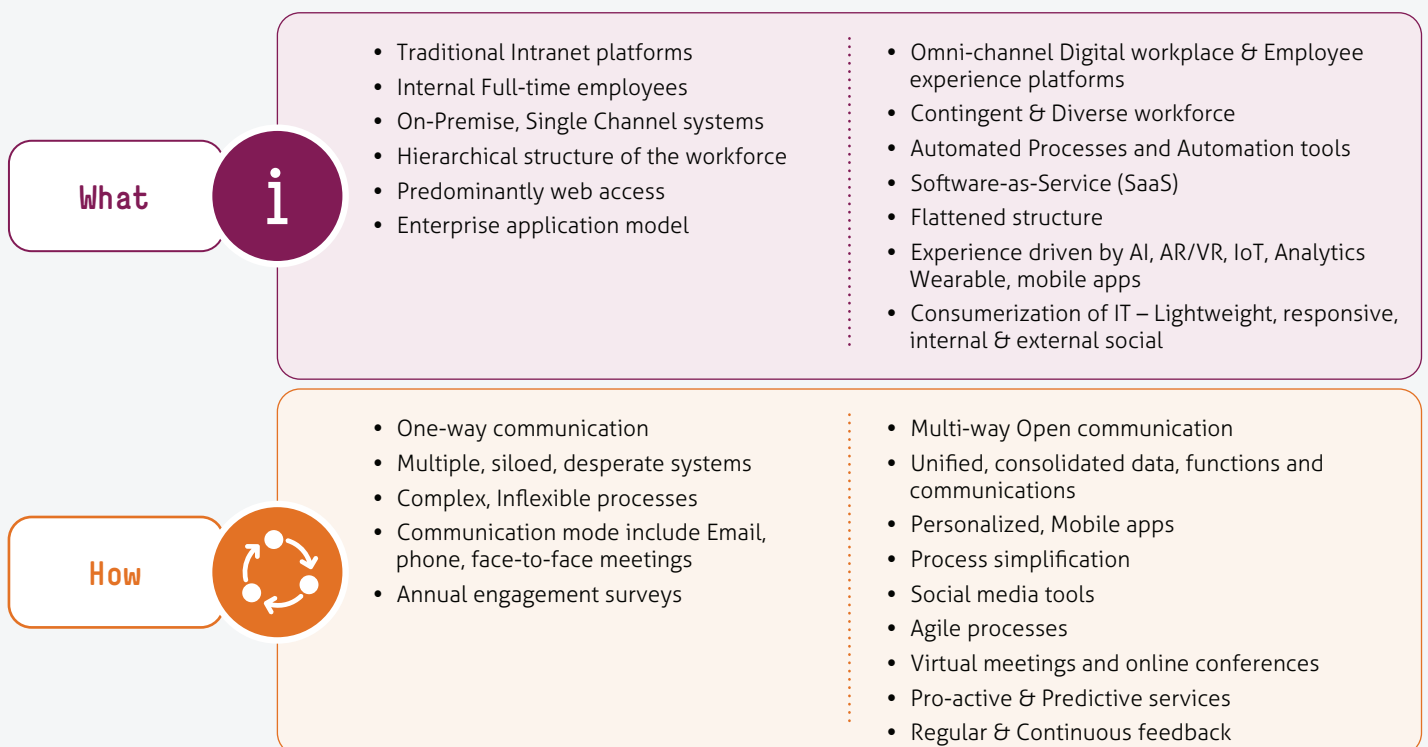
122% Companies with great EX outperform their peers[1]

>50% More than 50% of the total workforce consist of millelinnials (workforce aged between 15-35)

77% Millelinnials say flexibility at work improves the productivity

75% Plan to adopt intelligent BOTs to deliver employee service in next three years with 92% chatbots to deliver information

25% Believe workspace analytics, AR and micro-learning/training will be key technologies to adopt

4X Increase in people working remotely in past 10 years[2]

>90% Organizations plan to use productivity improvement tools[4]

>50% Organizations are engaging their workforce through social media platforms such as Facebook, LinkdIn[4]

20% Increase in employee statisfaction due to internal social media tools [22]

Figure 1 Trends in EX

Rapid innovations and radical technology advancements, coupled with business and market dynamics, have caused paradigm shifts in the field of EX. The how, what, why and where of employee experience-related paradigm shifts are defined in Figure 2.
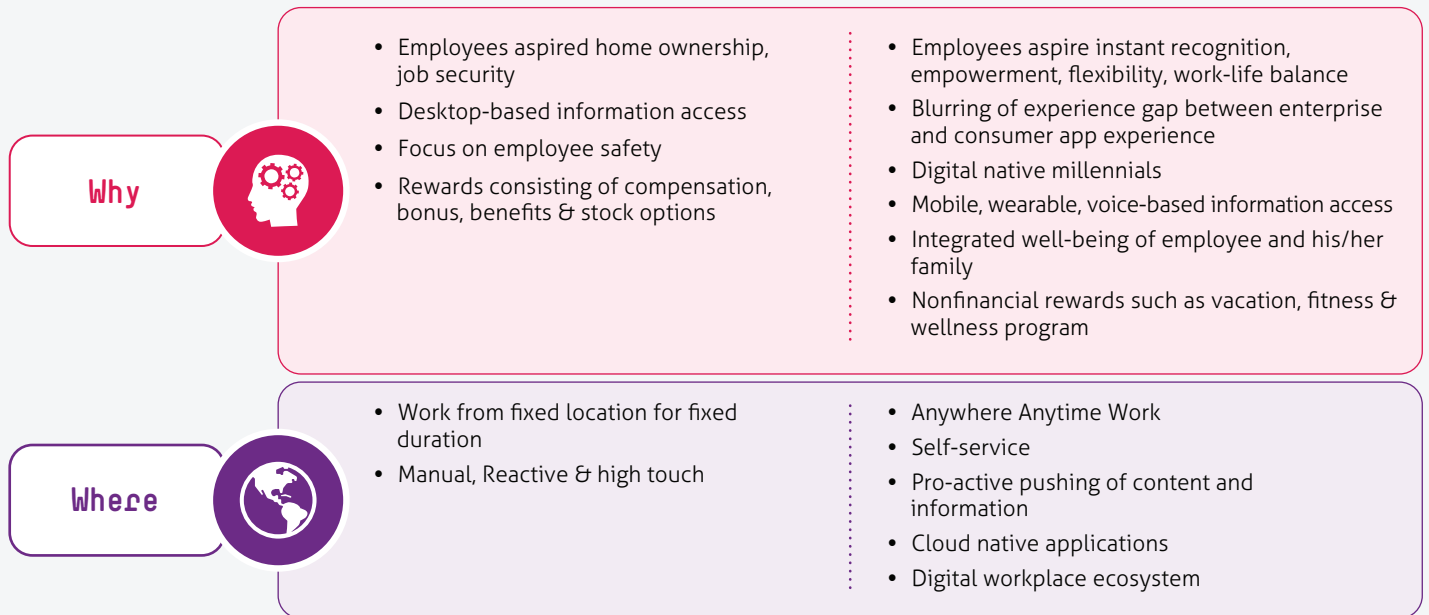
What ⓘ

- Traditional Intranet platforms
- Internal Full-time employees
- On-Premise, Single Channel systems
- Hierarchical structure of the workforce
- Predominantly web access
- Enterprise application model

- Omni-channel Digital workplace & Employee experience platforms
- Contingent & Diverse workforce
- Automated Processes and Automation tools
- Software-as-Service (SaaS)
- Flattened structure
- Experience driven by AI, AR/VR, IoT, Analytics Wearable, mobile apps
- Consumerization of IT – Lightweight, responsive, internal & external social

How

- One-way communication
- Multiple, siloed, desperate systems
- Complex, Inflexible processes
- Communication mode include Email, phone, face-to-face meetings
- Annual engagement surveys

- Multi-way Open communication
- Unified, consolidated data, functions and communications
- Personalized, Mobile apps
- Process simplification
- Social media tools
- Agile processes
- Virtual meetings and online conferences
- Pro-active & Predictive services
- Regular & Continuous feedback

Why

- Employees aspired home ownership, job security
- Desktop-based information access
- Focus on employee safety
- Rewards consisting of compensation, bonus, benefits & stock options

- Employees aspire instant recognition, empowerment, flexibility, work-life balance
- Blurring of experience gap between enterprise and consumer app experience
- Digital native millennials
- Mobile, wearable, voice-based information access
- Integrated well-being of employee and his/her family
- Nonfinancial rewards such as vacation, fitness & wellness program

Where

- Work from fixed location for fixed duration
- Manual, Reactive & high touch

- Anywhere Anytime Work
- Self-service
- Pro-active pushing of content and information
- Cloud native applications
- Digital workplace ecosystem

Figure 2 Paradigm shifts in EX

Drivers for new employee experience

Technology disruptions, employee expectations and business imperatives are driving changes in employee experience. We have depicted the key drivers for employee experience in Figure 3

Employee Expectations

- Consumer-grade user experience
- Personalized Engagement
- Self-service engagement
- Anytime, Anywhere Accessibility
- Quick accessibility of required information
- Expect same tools and applications they use in personal lives
- Social Platforms
- Quick resolution of service tickets

Technology Disruptions

- BigData causing huge growth of data volume
- Emergence of Cloud platform
- Software as service
- Pervasiveness of mobile apps
- Cognitive computing
- AI & Machine learning for automation
- People Analytics & Gamification
- IoT and wearable powered workspaces
- Smart Search & Knowledge Management
- Bots and virtual assistants

Business Imperatives

- Agile & Responsive enterprises
- Employee productivity improvement
- Cost optimization
- Focus on attraction and retention of talent
- Focus on employee satisfaction
- Harness collective intelligence
- Rapid innovation
- Enable on-demand elastic scalability
- High availability of the application

Nature of Work

- Remote working is becoming norm
- Flexible work hours
- Work-life balance
- Diversity of the workforce
- Accessibility needs of the job
- Ecosystem involving vendors, partners and external agencies
- Flat organization structure
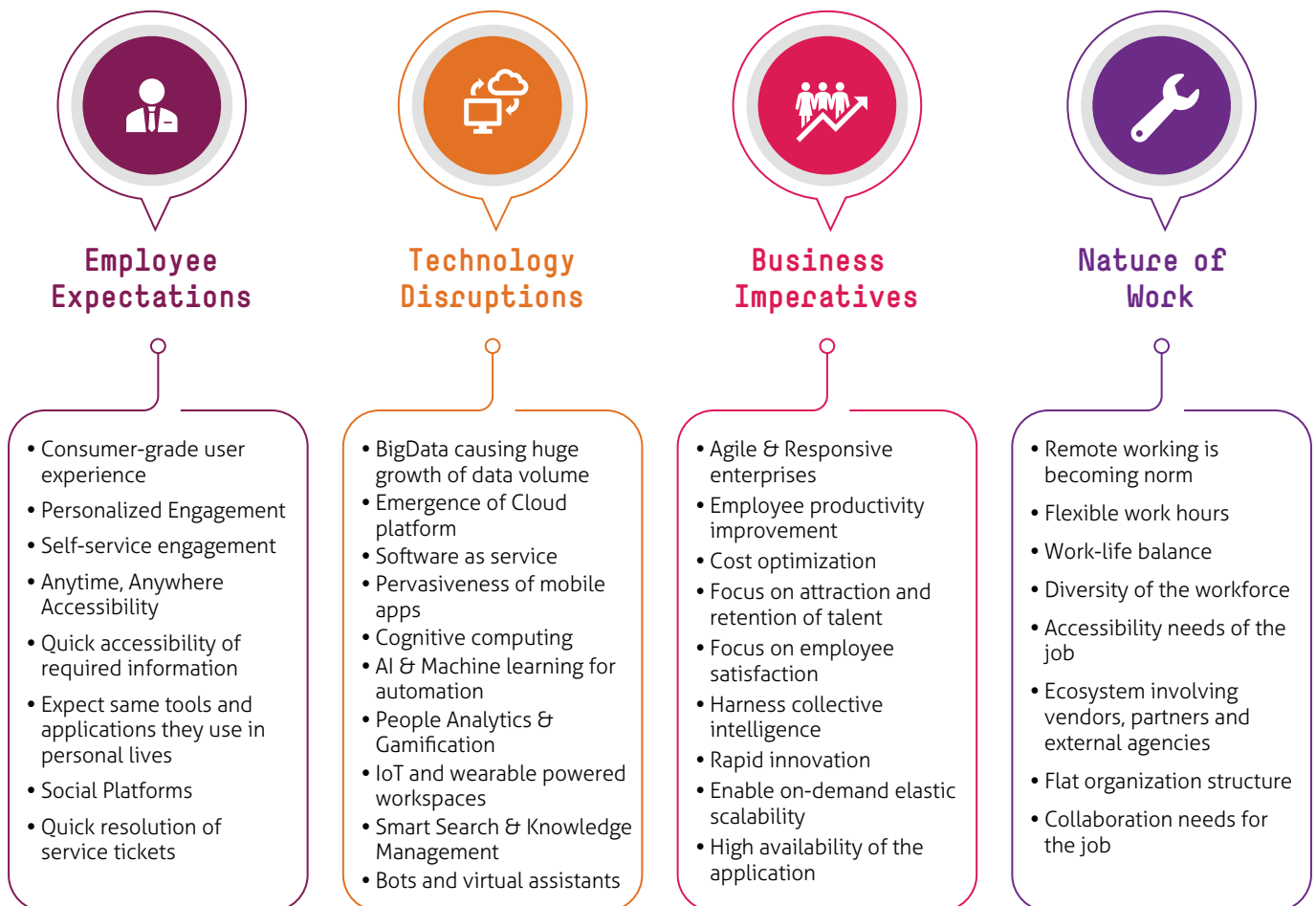- Collaboration needs for the job

Figure 3 EX Drivers

Employee expectations

Employees are expecting the performance and user experience similar to the ones t use in their personal lives. Employees expect self-service and personalized engagement and want quick relevant results. Employees expect faster resolution for the service tickets (66% same day response, 43% one hour response and 14% response in less than 5 minutes)[5] Employees also expect personalization, social platforms and consumer-grade experience.

Technology disruptions

The tectonic shift in the technology ecosystems such as pervasiveness of cloud technologies, security, IT consolidation is also impacting the employee experience world[6]. The information overload due to the rapid velocity of increase in data volume (90% of the overall data was created in last 2 years[8]) has impacted employees. Due to the large volume of data, employees are finding it difficult to find the relevant information in quick time. Cloud platforms are ubiquitous as they are used in the entire lifecycle of the application. Software as Service (SaaS), mobile apps, IoT, AI, Machine learning, analytics, Big Data, wearables, smart search and bots are all evolving to be the mainstream technologies in the digital workplace. Most organizations spend funds on bot development than traditional mobile apps[7].

Business imperatives

Organizations aspire to become hyper responsive to the end user's needs and market dynamics. In order to achieve this, they need to improve the employee productivity while optimizing costs. Organizations need to attract and retain top talent and focus on the employee satisfaction score. They need to harness the collective intelligence and enable rapid innovation to gain the crucial competitive edge. The business solutions should be resilient and should be scalable to cater to the sudden increase in user traffic. Organizations also need to ensure elastic scalability and high availability of applications.

Nature of work

Remote working and flexible work hours are becoming the norm. The fixed 9 AM to 5 PM time duration has become obsolete due to modern work demands. The modern work requires more collaboration and involves vendors and partners along with employees. The modern-day workforce is diverse and looks for work-life balance.

Evolution in employee experience technologies

Let's us closely look at the evolution in employee experience. We have depicted the main phases of employee experience technologies in Figure 4

Phase 1

Text based desktop based UI

Phase 2

GUI based desktop UI

Phase 3

Ubiquitous & Haptic Mobile Cloud

Phase 4

Cognitive, contextual aware & intelligent AI & Machine Learning Automated

Phase 5

Zero UI and human centric interactions Voice based Interactions Wearable IoT

Phase 6

Immersive & Sensory AR/VR Predictive Analytics Smart Recommendations
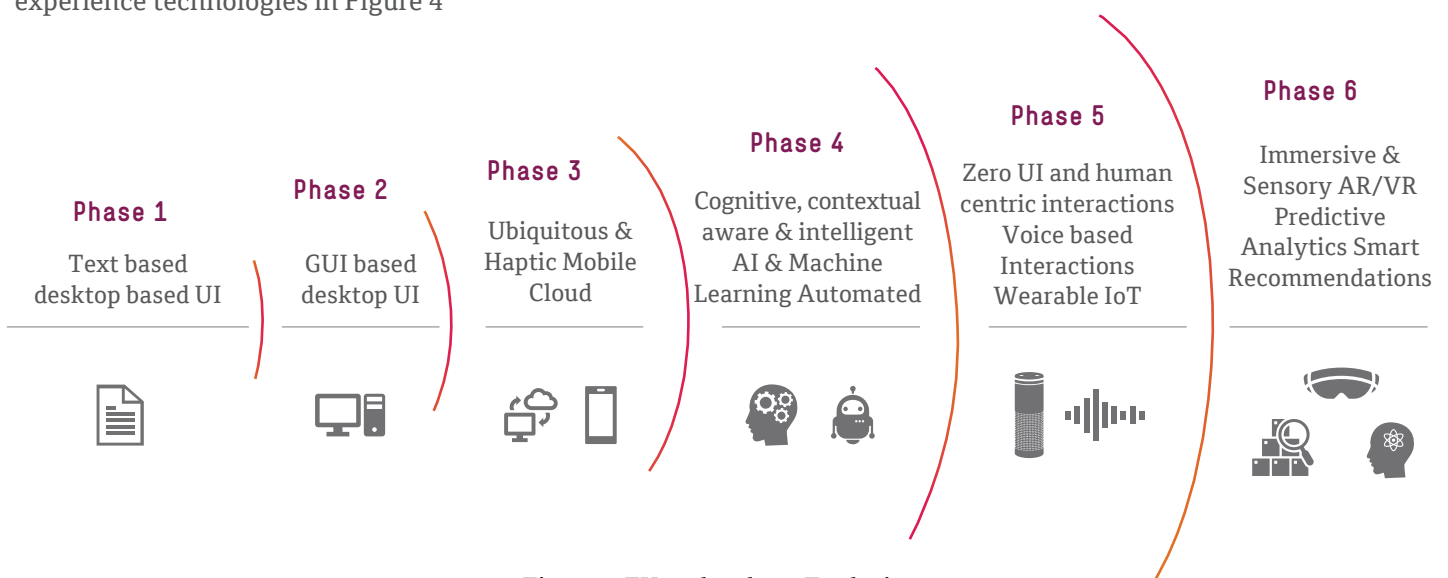
Figure 4 EX technology Evolution

EX technologies have evolved from text-based user interface to responsive applications. Current technologies are mostly in phase 4, where AI and automation technologies are used.

Summarizing the customer problems:

Traditional intranet platforms (built on legacy technologies) fall short of expectations of the modern workforce. Let's understand the key challenges with traditional intranet platforms so that the framework and metrics can be designed to address them. We have depicted the key challenges faced by employees and organization with traditional Intranet platforms in Figure 5, which also depicts the advantages with an efficient employee experience strategy.

	Employee-Related	Organization-Related	Others
Challenges Without Proper EX Strategy	• Frequent context switching • Lack of automation • Inconsistent User experience • Difficult to find relevant information • Lack of consumer-grade experience • Lack of personalization, user-centricity and self-service	• Lower employee productivity • Lack of analytics and reports • High Maintenance cost • High employee attrition • Increased time to market • High cost of innovation	• Complex and rigid business processes • Multiple disparate systems leading to information silos • Lack of automation • Scalability, performance & Availability challenges • Long time to market • Single channel access
Advantages With Proper EX Strategy	• **Employee Centric Experience** • **Agile and employee friendly processes** • **Self-help processes & tools.** • **Multi-channel collaborative ecosystem** • **Personalized and relevant information access.**	• **Increased Employee Satisfaction.** • **Increased employee productivity** • **Increased employee engagement and retention** • **Increases business agility**	• **Improved Innovations** • **Easier information access** • **Shorter time to market** • **Real-time analytics help management to improve the processes.** • **Simplified processes** • **Easy to use systems**

Figure 5 Advantages of EX strategy

Challenges without proper employee experience strategy

Employees spend about 25 minutes of time to re-focus after context switching or distraction[9], resulting in excessive stress and loss of productivity. Disparate tools and processes force employees to switch contexts, leading to a decrease in productivity. Without a proper employee experience strategy, 45% of employees face challenges with too many emails, 40% lack easy information access, 35% lack cross-functional collaboration, and 39% lack workload visibility[10]

Without proper information architecture, employees spend 20% of their time in search for relevant information and features to perform their task[11]. Employees spend about 12% of their time in administrative tasks such as filling up timesheets, raising requests and such[12] . Due to these activities that are not automated, employees lose productivity and face various hurdles while performing day-to-day activities. If the information is distributed in siloed systems, more than half of the employees cannot find the relevant information[13]. Organizations report decreased employee productivity, and increased costs and employee attrition.

Advantages of a proper employee experience strategy

Agile processes and an employee-centric user experience increases the overall employee productivity. Self-help tools, a collaborative ecosystem, simplified processes and personalization improve the employee engagement, satisfaction and employee retention. The increased speed of innovation and easier information access decreases the time-to-market. To summarize, *"From transforming engagement to inspiring innovation and extending it across the enterprise, a unique opportunity exists for organizations to satisfy a digitally savvy workforce and, in the process, accelerate productivity and agility."* [14]

Employee experience optimization framework

There is no magic formula or a silver bullet for creating truly exceptional employee experiences. Sir Richard Branson, one of the most successful entrepreneurs, puts this succinctly - "There's no magic formula. The key is just to treat your staff how you would like to be treated. Think of it as the Golden Rule for creating an exceptional employee experience."

In this section, we have defined a comprehensive framework to optimize the employee experience. We define a framework consisting of four key pillars for comprehensive employee experience optimization:

1. **Optimization of phases in the employee journey:** We need to optimize the end-to-end phases of an employee journey starting from talent attraction to employee departure.

2. **Optimization of three dimensions of employee experience:** We need to optimize the EX from the lens of organization culture, physical experience, and digital experience.

3. **Optimization of building blocks for employee experience:** We need to optimize the core building blocks such as personalization, engagement, user experience, collaboration and others that influence the employee experience.

4. **Digital workplace strategy:** We need to layout a comprehensive digital workplace strategy consisting of collaboration, communication, automation, and others.

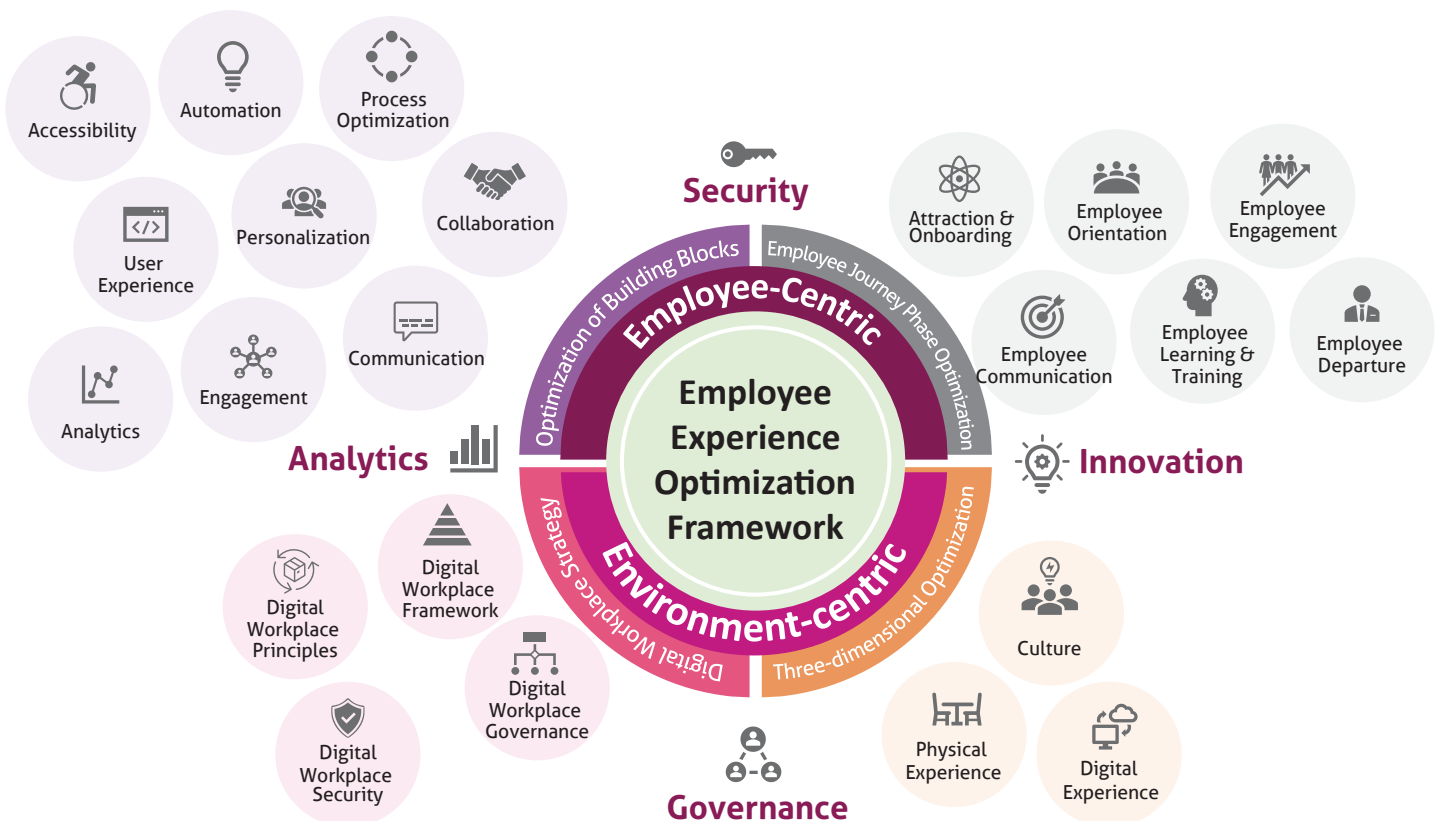We have depicted the optimization strategy for employee experience in Figure 6.

Figure 6 EX Optimization Framework

The governance processes, employee analytics, innovation and security serve as cross-cutting concerns across the framework elements.

Optimization of phases in the employee journey:

An employee journey in an organization begins with talent onboarding till employee departure[16]. We have depicted the various phases in the employee experience journey in Figure 7, which also indicates the core activities, typical challenges and innovation opportunities.
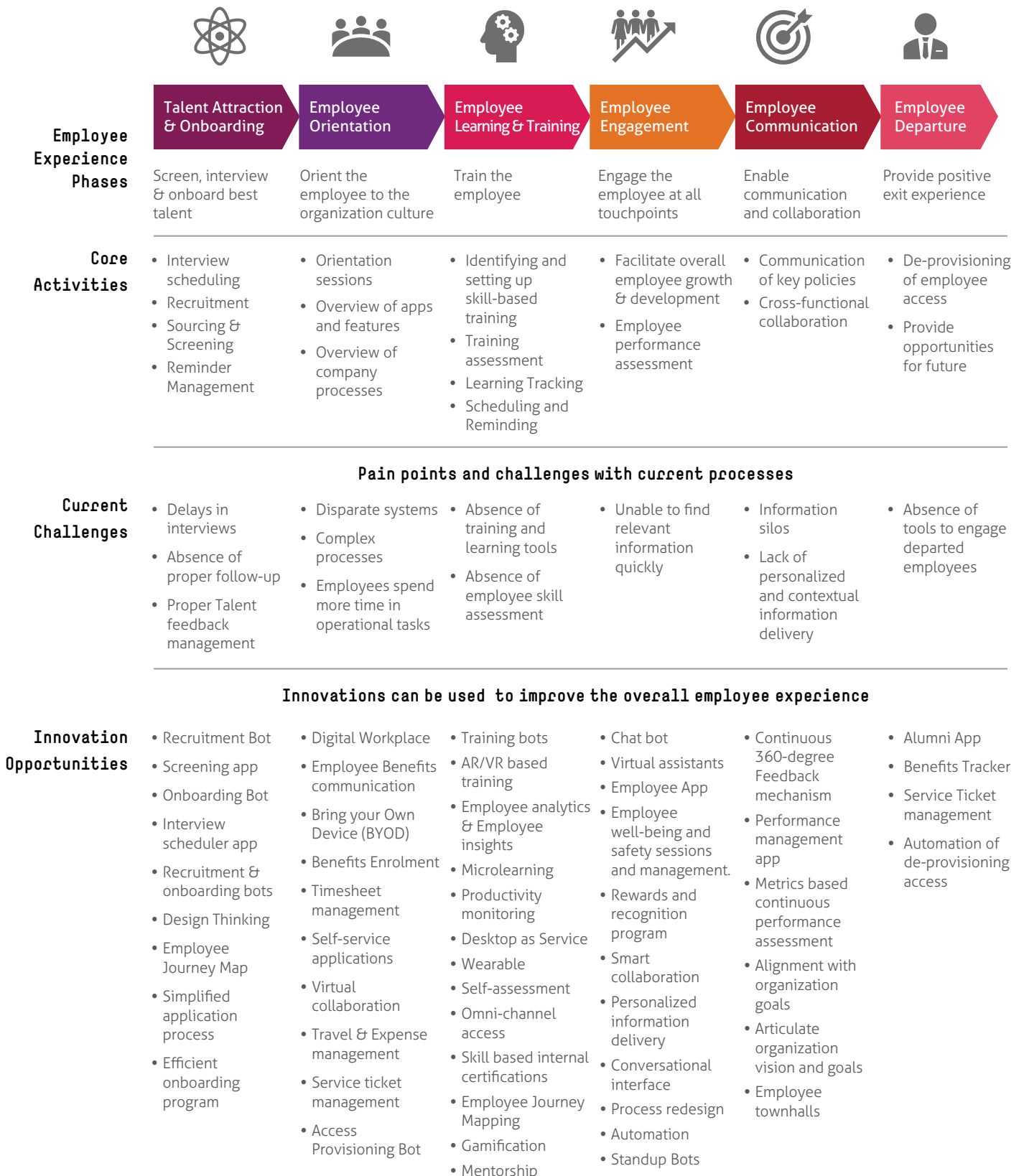
	Talent Attraction & Onboarding	Employee Orientation	Employee Learning & Training	Employee Engagement	Employee Communication	Employee Departure
Employee Experience Phases	Screen, interview & onboard best talent	Orient the employee to the organization culture	Train the employee	Engage the employee at all touchpoints	Enable communication and collaboration	Provide positive exit experience
Core Activities	• Interview scheduling • Recruitment • Sourcing & Screening • Reminder Management	• Orientation sessions • Overview of apps and features • Overview of company processes	• Identifying and setting up skill-based training • Training assessment • Learning Tracking • Scheduling and Reminding	• Facilitate overall employee growth & development • Employee performance assessment	• Communication of key policies • Cross-functional collaboration	• De-provisioning of employee access • Provide opportunities for future

Pain points and challenges with current processes

Current Challenges	• Delays in interviews • Absence of proper follow-up • Proper Talent feedback management	• Disparate systems • Complex processes • Employees spend more time in operational tasks	• Absence of training and learning tools • Absence of employee skill assessment	• Unable to find relevant information quickly	• Information silos • Lack of personalized and contextual information delivery	• Absence of tools to engage departed employees

Innovations can be used to improve the overall employee experience

Innovation Opportunities	• Recruitment Bot • Screening app • Onboarding Bot • Interview scheduler app • Recruitment & onboarding bots • Design Thinking • Employee Journey Map • Simplified application process • Efficient onboarding program	• Digital Workplace • Employee Benefits communication • Bring your Own Device (BYOD) • Benefits Enrolment • Timesheet management • Self-service applications • Virtual collaboration • Travel & Expense management • Service ticket management • Access Provisioning Bot	• Training bots • AR/VR based training • Employee analytics & Employee insights • Microlearning • Productivity monitoring • Desktop as Service • Wearable • Self-assessment • Omni-channel access • Skill based internal certifications • Employee Journey Mapping • Gamification • Mentorship	• Chat bot • Virtual assistants • Employee App • Employee well-being and safety sessions and management. • Rewards and recognition program • Smart collaboration • Personalized information delivery • Conversational interface • Process redesign • Automation • Standup Bots	• Continuous 360-degree Feedback mechanism • Performance management app • Metrics based continuous performance assessment • Alignment with organization goals • Articulate organization vision and goals • Employee townhalls	• Alumni App • Benefits Tracker • Service Ticket management • Automation of de-provisioning access

Figure 7 EX Journey Phases Optimization

In the talent attraction and onboarding phase, we could use the innovations such as recruitment bot, screening app, onboarding bots and design thinking to speed up the process. Mindtree can accelerate the talent onboarding and talent acquisiton through right marketing strategies to attract and on-board the right fit candidates[63]. During the employee orientation phase, we could use innovations such as timesheet management apps, self-service tools, virtual collaboration, automation and service ticket management. Training bots, AR/VR-based learning, microlearning, gamification and skill-based training iare some innovations that can be used during employee learning and training. Mindtree's Shotclasses[68], a mobile-first, micro learning platform and avatar-based training solution can be used to accelerate employee onboarding and encourage ongoing learning.

During the employee engagement phase, chat bots and virtual assistants can actively resolve employees' queries. We could also use instant recognition, smart collaboration, personalised information delivery and process redesign during this phase. During the employee communication phase, adopt continuous 360 degree feedback mechanism, performance management apps and continuous assessment, and articulate the organization goals to align employees. We could improve the exit experience in the employee departure phase by providing the alumni app, service ticket tracker and automating the de-provisioning process.

Dimensions of the employee experience:

We have depicted the three core dimensions of employee experience in Figure 8. It is imperative to optimize these three dimensions for developing a robust employee experience strategy.

- Cubicles
- Ambience
- Lighting
- Commutation
- Office Location
- Ventilation
- Campus
- Air conditioning
- Safety Measures

Culture

- Policies
- Company Values
- Vision and goals
- Business Processes
- Culture of appreciation
- Leadership communication
- Culture of creativity & Innovation
- Learning & Growth opportunities

Aesthetics, Brand Identity

Collaboration, Social Platforms Accessibility Rewards Feedback

Physical Environment

Apps, Tools Scheduling Apps Meeting Place Wearable

Digital Environment

- Digital Workplace
- Mobile Apps
- Automation
- Self-Service tools
- Chatbots, Virtual assistants
- User experience
- Search
- Employee Analytics
- Productivity Improvement Tools

Figure 8 EX Dimensions

Culture

Culture is defined by how employees perceive the work environment, its policies, benefits, compensation and hierarchy. More than half of the employees feel that culture plays a vital role in the overall employee experience[17]. Millennial employees value the corporate culture over other aspects[19] . The key culture building blocks include trust relationships with colleagues, sense of pride about the company, feedback and appreciation processes, leadership communication and articulation of goals, knowledge of employee impact on the overall organization success, learning and career growth opportunities, flexibility at work, opportunities for creativity and innovation at work[18].

"Culture eats strategy for breakfast" is a famous quote from management consultant Peter Drucker. Hence the strategy and processes should support the existing organization culture and should not force anything that is not aligned with it. Managers should empower the individual team members through coaching and mentoring. Teams should be autonomous to take independent decisions so that they can perform better. The leaders should lead by example and articulate the mission and purpose, so that the team trusts and draws inspiration.

We could employ the culture of continuous feedback and instant appreciation to provide a positive employee experience. The organization values and the articulation of goals to individual employee play an equally crucial role. The organization's policies should enable the inclusivity and workforce diversity. Organizations can regularly solicit feedback from employees through surveys, hackathons and such. We can organize anonymous, confidential surveys (such as employee engagement surveys, employee satisfaction surveys, 360-degree feedback surveys) to solicit feedback from employees and improve the experience based on that.

Create and maintain a culture that values inclusion, individuality, and social harmony for better engagement[60].

Physical environment

The physical environment includes the cubicles, ambient lighting, furniture, decorations, temperature, air quality, noise control, office location, commutation, ventilation, office location, safety measures, air conditioning system, building aesthetics, campus, ambiance and such. Safety measures are critical aspects of physical environment that promote employee wellbeing. Employees are also motivated by the inspiring physical environment. Approximately, the physical environment comprises 30% of overall employee experience[53].

Organizations need to invest in employee-friendly physical environment to provide the right working space for employees. Offices should provide accessibility features and cater to special needs of employees. Ergonomic chairs, environment-friendly natural lighting and ensuring minimal carbon footprint transportation are some of the examples for this. Workplaces should provide adequate safety measures and employees should undergo regular safety trainings.

Digital Environment

The digital environment comprises platforms and mobile apps that employees use regularly. The digital environment mainly consists of digital workplace platforms, chatbots, virtual assistants, remote working tools and automated jobs.

Organizations should enable employees with the right set of tools and access controls to the systems so they can perform their jobs better. Digital tools should enable flexible work atmosphere through virtual collaboration, remote working, smart search and such. Organizations can leverage employee analytics to understand the challenges and enable productivity improvement tools. We will discuss the digital workplace strategy that is core tenet of the digital environment in subsequent sections.

The building blocks of employee experience:

A holistic experience needs to be employee-centric and engaging to improve productivity. Employee experience platforms should provide collaboration, self-service, and AI tools to enable and empower employees. Identifying the core tenets or the building blocks of the employee experience is crucial to building efficacy.

The key experience factors that impact the work effectiveness, employee engagement and well-being are organizational stability (job security and financial stability), compensation and benefits (physical and mental health, rewards), Trust (colleague trust), relationship with company, nonfinancial recognition (work recognition), fairness (fair treatment), involvement, respect (supportive colleagues), equality, alignment with organizational purpose and values (achieving work goals, work-life balance, fulfilling employee's personal purpose at work)[60] We have depicted the building blocks of the employee experience along with its functional features, technology components, experience definition, horizontal components, and tools in Figure 9.

Figure 9 EX Building Blocks

EX Building Blocks / Functional Features

User Experience	Accessibility & Inclusion	Communication & Collaboration	Personalization	Productivity Improvement	Employee Engagement	Learning & Self Development	Automation	Analytics	Process Optimization
Mobile First	Anytime, Anywhere, Any device access	Information sharing	Persona-based design, journey	Employee Journey OPtimization	Communications	Microlearning	Communications	Productivity Monitoring	Process simplification
Consumer-grade UX	Localization	Knowledge Management	Contextual & Relevant information delivery	Task Management	Training & e-Learning	Certifications	Identification of Repetitive task	Employee Behaviour Analysis	Single Step workflows
Usability	Ramps, Handrails	Internal Social Platform	Explicit/Implicit Personalization	Self-service Enablement	Rewards & Recognition	Virtual sessions	Batch Jobs	Data Consolidation	Self-approvals
Information Architecture	Assistive Tech	Bi-directional communication	Targeted Content Delivery	Autonomy	Gamification	Innovation Sandbox	Machine Learning of employee actions	Employee Insights	Automated Processes
Dashboards/Integrated View	Disability Friendly Workplace	Idea Hub	User Segmentation	Productivity Measurement	Insights	Video demos		Real-time trends recognition	Process Redesign
Branding & Communication	Assistive/Guiding methods	Leadership communication	Understand needs, goals, wants	Calculators	Feedback, Polls & Surveys	Skill-based learning	Insights	Data driven decision making	Feedback, Polls & Surveys
Performance	Content Design	Live Meeting/Conference	Preference Management	Work-life balance	Inclusion	On-the-job training	Automated Patching, Maintenance	Leader boards	Time bound approval

Technology Components

User Experience	Accessibility & Inclusion	Communication & Collaboration	Personalization	Productivity Improvement	Employee Engagement	Learning & Self Development	Automation	Analytics	Process Optimization
Responsive Design	Voice enabled tools	Team chat/Messenger	Quick Information access	Travel, project management tools	Ask Leader Tool	Gamification	Employee Bots	Predictive Analytics	Business Process Management
Single Page Applications (SPA)	Cross-browser Support	Blogs, wiki, Forums, Calendar, Microblog	Audience Targeting	Employee Feedback tool	Live Event Streaming Tools	Learning Management System	Virtual Assistants	Prescriptive Services	Web Forms
Search	Cloud-Ready	Content/Document /Asset Management	Microsites	Smart Search	Idea Hub	Learning lab	Automated Batch Jobs	Web Analytics	One-click Processes
Multi-Channel Support	Multi-Lingual Support	Groups/Community	Personalized Search	Performance Management Tool	Chat bots, Virtual Assistants	Learning Bot	Robotic Process Automation (RPA)	Smart recommendations	Single-Page forms
Mobile Apps	WCAG Checker	Polls, surveys,	Employee Journey Map	Incentive Management	Safety & Wellness tools	Skill Repository	Conversational Interfaces	Social Media Listening	Auto-approval

Experience Definition

Progressive Web App
Single Page Application (SPA)
Interactive UI
Responsive UI
Design Thinking
Consumer-grade Experience
Mobile-First Approach
Digitized Flows
Process Automation
Persona-based Experience

Horizontal Components

Continuous Integration
Accessibility
Disaster Recovery
Agile Delivery
Analytics
Workflow
Reports
Services
Integrations
Security

Reporting
SEO
Code Coverage
Metrics & Monitoring
Reporting
Metrics & Monitoring
Project Management
Cloud/On-Premise Infrastructure
DevOps
Governance

Tools

Pega
Google Analytics, Omniture
Alexa, Siri, Cortana
Moodle
AWS WorkSpace, Facebook Workplace
Jira, SalesForce, Trello, Asana, Workday, Atlassian, zoho
Dropbox, OneDrive, Box, SharePoint
Slack, MS Teams, Workplace, Yammer, Jive
Drupal, Liferay, Adobe AEM, Sitecore, Staffbase
Solr, Elasticsearch, Attivio,

User experience

For the millennial workforce, the line between the consumer applications (such as Amazon, Facebook, WhatsApp) and the enterprise applications is blurring. The modern workforce expects consumer-grade user experience in the enterprise apps that inspires and motivates them to give their best to their jobs. An employee mobile app is an efficient way to provide consumer-grade user experience. As per research, the employee app increases employee engagement, facilitates smooth changes, improves productivity, and reduces wasted time[20] . We could use intuitive information architecture, responsive design, omni-channel enabled experiences, Single Page Applications (SPA) and intuitive search for employees as part of providing a responsive user experience.

Accessibility and inclusion

The millennial workforce participates actively in the organization initiatives that are engaging and inspiring. Hence, the organization should provide a holistic, inclusive, and accessible environment for the diverse workforce. Organizations should provide a disability-friendly workplace and assistive technologies to provide equal work opportunities. We could use tools such as WCAG checker, voice-enabled assistants and multi-lingual support to provide a more inclusive digital workplace.

Communication and collaboration

"Talent wins games but teamwork and intelligence wins championships" is a famous quote from Michael Jordan. Collaboration is all about bringing employees together. A high performing team epitomizes Aristotle's quote - "The whole is greater than the sum of its parts." To build high performance teams that are greater than sum of its individual talents, collaborative teamwork is imperative. Collaboration features should speed up networking and leverage the combined wisdom. It should also provide a platform for knowledge sharing and Intellectual Property (IP) management. Employees should be able to collaborate with like-minded colleagues and community groups. Employees must also be able to express their thoughts and ideas through blogs, points of view, whitepapers and other related collaterals, and should be able to collaborate with their colleagues through screen sharing, live meetings, and audio/video conferences. Employees should be able to share relevant information, articles, and documents securely with their colleagues. The collaboration feature should make employees feel as part of the community and boost their morale. The key collaboration tools include blogs, knowledge management, feeds, discussion groups, review and rating, social networks, communities, and search. Organizations should provide synchronous and asynchronous collaboration tools and remote working tools to enable better collaboration.

Deploying internal social media tools increase the overall organization productivity by 7%[21] and the overall employee satisfaction by 20%[22]. Internal social media tools influence employee experience, and in order to drive the adoption and contribution to the internal social media platforms during its initial phases, gamification could be used to reward the contributors.

As per results of a survey, employees ignore about 30% of email-based communication[23]. A failed communication strategy also disengages employees, leading to 12% higher turnover rate[23]. An efficient way to communicate the important corporate news and announcements is through mobile app notifications.

Change-related stress decreases the performance of average employee by 5%[24]. Hence, it is important to enable bi-directional communication in the employee app.

Personalization

Mindtree's own survey finds that personalization is key for phy-gital success, user retention and growth[25] . A great employee experience uses hyper-personalization to contextualize the content and functionality. We could group the employees into their appropriate personas (logical groups/segments) and understand the needs, motivations, goals, and tasks for each of the personas. We could optimize the persona-based journey and provide personalized data and functions. Personalization can also be achieved through an employee-specific physical environment and a personalized digital workplace experience.

Productivity improvement

The processes and tools should improve the overall employee productivity. Forward-looking organizations employ design thinking approaches and AI tools to create compelling employee experience and productivity improvement tools. The popular tools that are normally used for driving a superior employee experience are collaboration tools, predictive employee services, self-service apps, AI tools, productivity improvement tools and social/emotional monitoring tools for improving productivity[34]. The self-service applications, smart search, process optimization, automation and centralized knowledge management contribute to productivity improvement. A flexible workplace strategy improves productivity by 13-20%[39]. Productivity improvement apps such as claims, timesheet, IT helpdesk and project management tools play a crucial role in boosting employee productivity.

Employee engagement

Psychologist William Kahn describes employee engagement as "the conditions of work that contribute to the degree which an employee will engage *("to express and employ their personal selves") or disengage ("withdraw and defend their personal selves") in their work"* [54]. Highly engaged employees are less likely to leave the company and have 45% of low turnover risk [27]. Positive employee engagement increases employee retention by 87% [28]. The average employee engagement rate is at 15% and at high performing companies, the employee engagement rate is 70%, leading to 21% higher profits[29]. Engaged employees are 12 times more likely to be the brand advocates of their organization[51]. Organizations that have highly engaged employees are 21% more profitable than their peers [30]. On the contrary, disengaged employees cost more than 500B USD loss to the US per year[31]. Only 34% of the US workforce is fully engaged[56]. Disengagement leads to employee turnover and it takes average of 20% of an employee's annual salary to replace them[26].

Hence, an organization that invests in employee engagement will have better employee retention and higher employee satisfaction, thus helping them achieve their full potential. Efficient employee engagement is indicated by the degree to which an employee is willing to give the best to the work[55]

A critical aspect of employee engagement is communication[29]. An employee experience platform should provide tools for communication through which leaders can communicate news and company information clearly and openly to motivate employees towards achieving the common goals. The employee engagement platform should support top-down, bottom-up and cross functional communications. An organization can also engage its employees by arranging frequent question and answer session with the leadership team. Employee engagement platforms should also provide platforms for employees to express their ideas, feedback, and opinions through tools such as polls and surveys.

As managers can influence 70% of variance in the employee engagement score[36], they play a crucial role in the overall employee engagement. Empower managers and devise employee-friendly policies to engage employees better. Develop mindset and capabilities for managers on the four trust attributes (high credibility, reliability, intimacy, and low self-orientation) that help them engage employees better[61].

Employee care is another key aspect of employee engagement. 60% of employees who felt they are better cared for are likely to stay with the company longer and are better engaged [56].

Learning and self development

Employees should be able to do online courses, take up certifications and connect with experts for enhancing their learning and self-development. We could also enable the employees by providing self-training materials, video demos, orientation sessions and training workshops online. Companies can provide innovation sandboxes along with time-offs from regular work to encourage the innovative ideas of employees.

Automation

About 30% of employees' time is spent in mundane basic tasks[32]. 85% of executives use automation to optimize business processes[33]. Hence, the organization has to identify the basic operational and administrative tasks that are structured and repetitive in nature and automate them. Some of the employee-related tasks that can be automated are as follows:

- Automatic provisioning and de-provisioning of the required access control to employees
- Automation of the first level support for employee tickets using smart agents.
- Chat bots, virtual assistants and smart search, harnessing the knowledge base to automate the recommendations.
- Regular operational activities such as system patching, maintenance, and such.

Analytics

Gain insights from consolidated data from multiple departments to enable data-driven decisions for employees and management. It is possible to spot trends, identify real-time end-user pain points, and provide targeted content and smart recommendations using analytics. Analyse the employee behaviour to track the employee satisfaction and predict the likelihood of employee churn.

Process optimization

"It takes a lot of hard work to make something simple, to truly understand the underlying challenges and come up with elegant solutions," is a famous Steve Jobs quote. Optimize and streamline the processes, , automate the key steps, provide plug and play tools and leverage always-available cloud ecosystem to simplify existing processes. Some of the key optimization opportunities are as follows:

1. Provide the required access to employees for all systems that are needed for their day-to-day activities.
2. Use analytics to understand business processes where employees are spending most of their time. Simplify those processes by reducing multi-step workflows into single-step types, and processing step automation, self-approval workflows, time-bound auto-approval and such.
3. Simplify the approval processes that are most used by employees. Reduce and automate the process steps, and provide auto-approval feature.

Digital workplace strategy

Gartner defines the digital workplace as *"The digital workplace enables new, more effective ways of working; raises employee engagement and agility; and exploits consumer-oriented styles and technologies."* [37]

Digital workplaces consolidate data, processes and communications across various business functions to provide a unified, optimized, and more productive and efficient digital employee experience through platforms, tools and technologies.

A digital workplace defines the corporate culture with autonomy, accountability, accessibility and empowerment[35]. The digital workplace enables an anytime-anywhere work ecosystem, secured collaboration, relevant information and leverages structured and unstructured data (such as chat, video, images) to personalize the experience[36]. The digital workplace enables knowledge workers by providing the right information at the right time, thereby improving their productivity. Digital workplaces are responsive to employees, enhance their efficiency to do the job better and make them happier in their jobs[48]. A comprehensive digital workplace ecosystem should involve customers, vendors, suppliers and partners along with employees. Digital workplaces are also sometimes referred to as employee experience platforms (EXP).

We have depicted the key tenets of a modern digital workplace in Figure 10
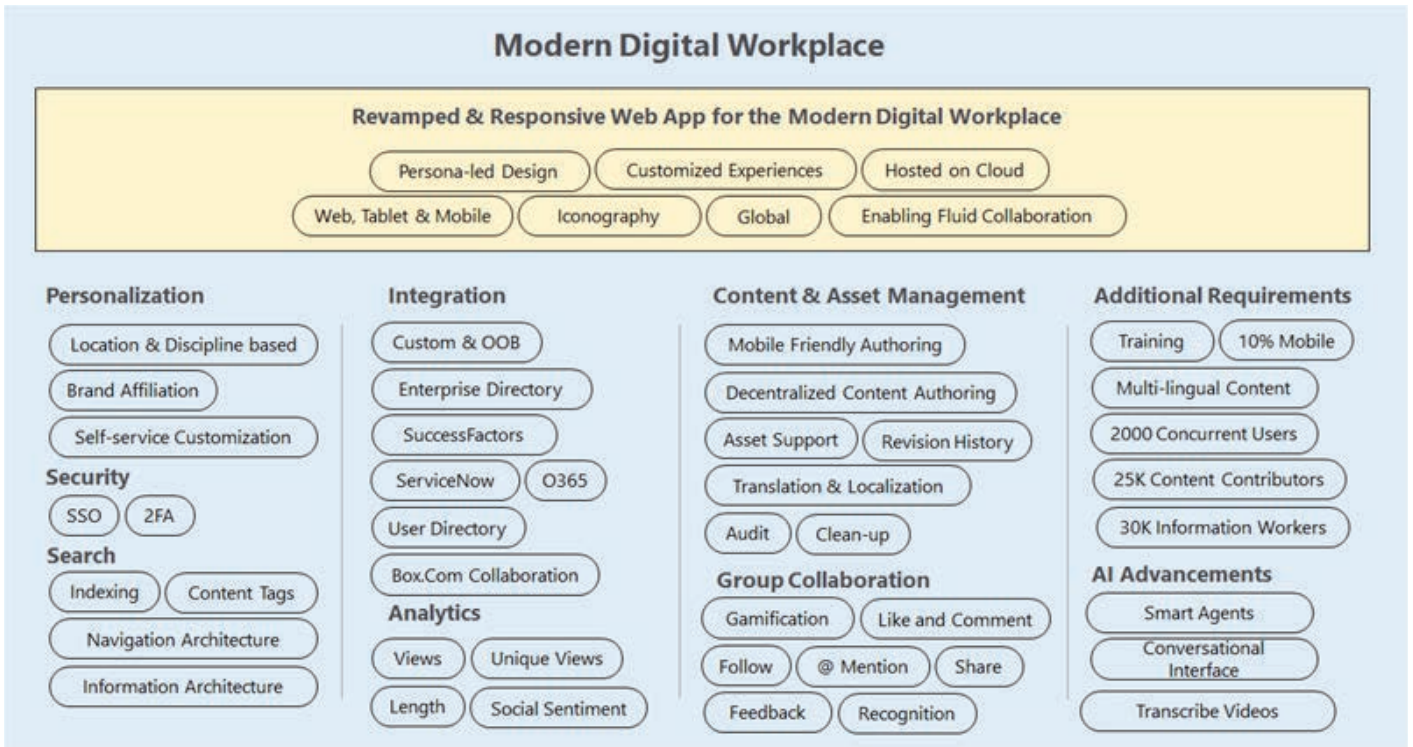

Modern Digital Workplace

Revamped & Responsive Web App for the Modern Digital Workplace
Persona-led Design · Customized Experiences · Hosted on Cloud
Web, Tablet & Mobile · Iconography · Global · Enabling Fluid Collaboration

Personalization
- Location & Discipline based
- Brand Affiliation
- Self-service Customization

Security
- SSO · 2FA

Search
- Indexing · Content Tags
- Navigation Architecture
- Information Architecture

Integration
- Custom & OOB
- Enterprise Directory
- SuccessFactors
- ServiceNow · O365
- User Directory
- Box.Com Collaboration

Analytics
- Views · Unique Views
- Length · Social Sentiment

Content & Asset Management
- Mobile Friendly Authoring
- Decentralized Content Authoring
- Asset Support · Revision History
- Translation & Localization
- Audit · Clean-up

Group Collaboration
- Gamification · Like and Comment
- Follow · @ Mention · Share
- Feedback · Recognition

Additional Requirements
- Training · 10% Mobile
- Multi-lingual Content
- 2000 Concurrent Users
- 25K Content Contributors
- 30K Information Workers

AI Advancements
- Smart Agents
- Conversational Interface
- Transcribe Videos

Figure 10 Key Tenets of Modern Digital Workplace

Digital workplace framework

A digital workplace framework consists of three main pillars - business, innovation and people value. We have depicted the digital workplace framework in Figure 11.
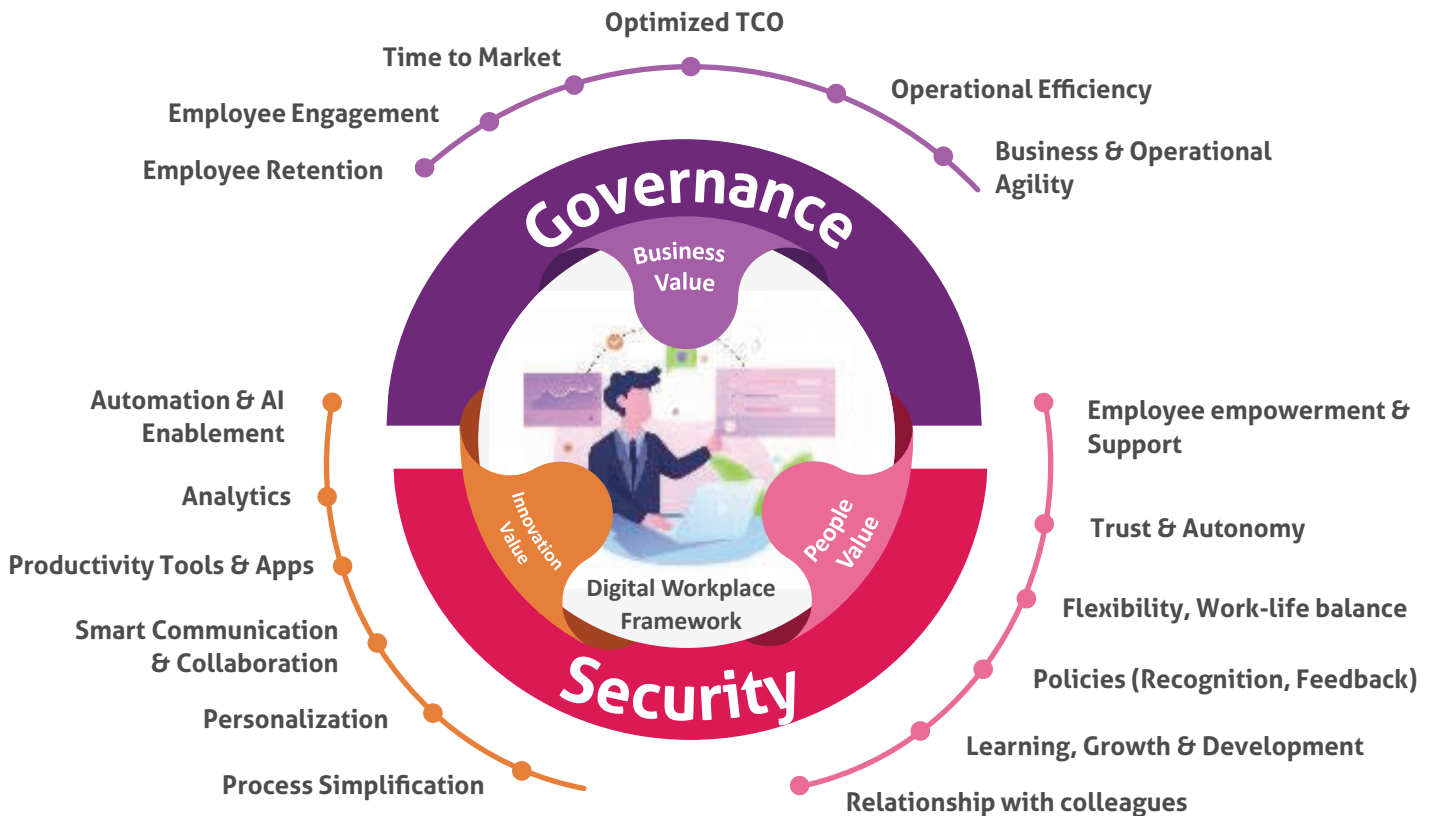
Figure 11 Digital Workplace Framework

Business value

Business value is all about influencing business outcomes such as employee engagement, employee retention, time-to-market, total cost of ownership, improving the efficiency of the solution and being agile to the market dynamics. The digital workplace should be able to realize these business values. **Innovation value** depicts the innovation quotient consisting of improving automation, leveraging artificial intelligence, smart communication and collaboration, and using productivity improvement tools. Rapid and continuous innovation and the culture to foster it provides the competitive edge to an organization. The third dimension of a digital workplace framework is **people value**. A digital workplace should empower employees and support them in their daily tasks, and provide learning and growth opportunities. Employee-friendly policies, flexibility and work life balance actively engage employees, and improve employee satisfaction and retention.

Reference architecture of a modern digital workplace

The reference architecture of a modern digital workplace depicts the main features, layers and concerns in the overall technology ecosystem of a digital workplace. We have depicted the reference architecture for digital workplace in Figure 12
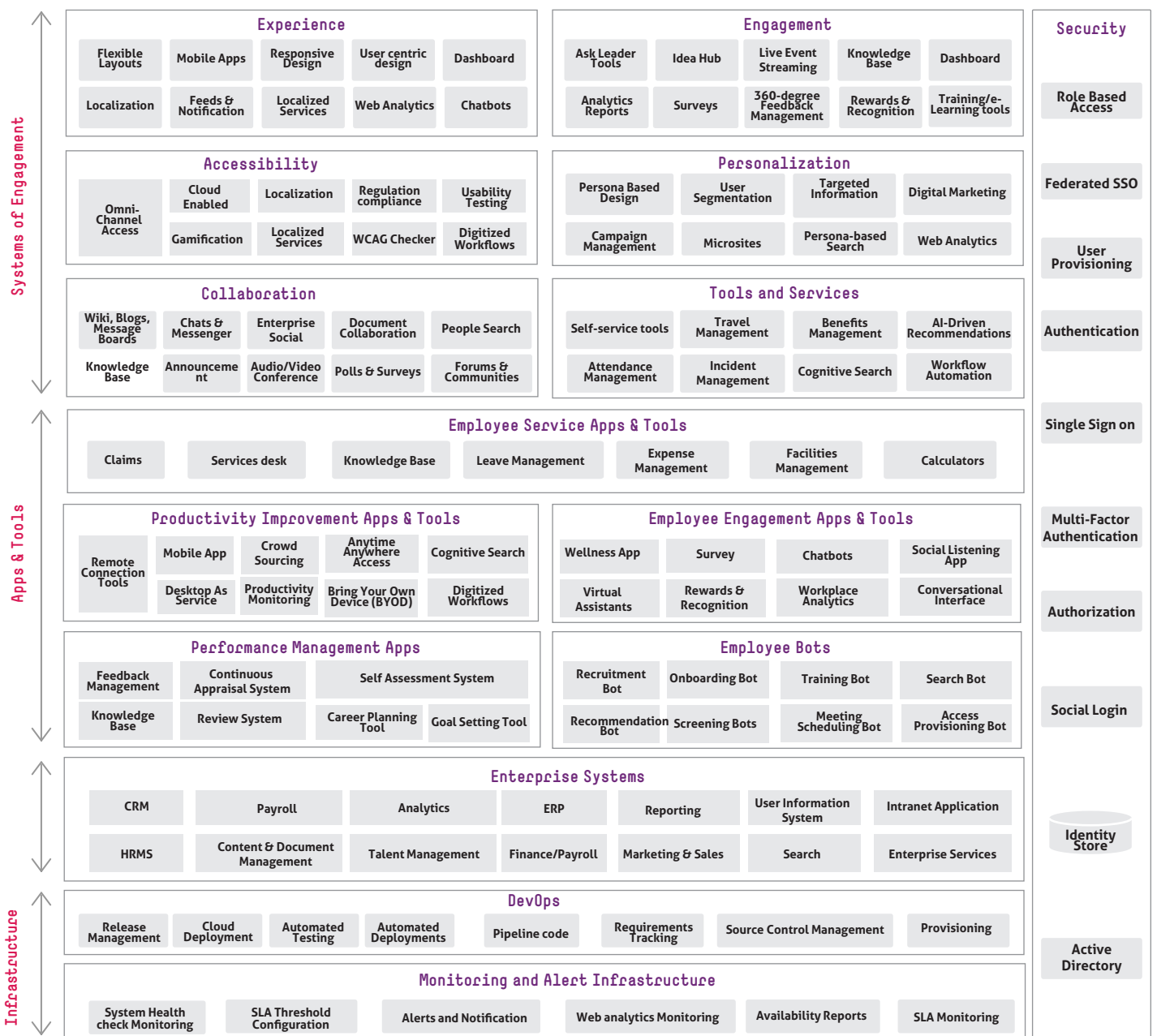
Figure 12 Reference architecture of modern digital workplace

As depicted in the figure 12, the digital workplace mainly consists of systems of engagement, apps and tools, systems of record, security and infrastructure components. The **systems of engagement** shape the end user experience and directly impact employee satisfaction levels. Key components of the systems of engagement include experience, engagement, personalization, accessibility, collaboration, and tools and services. Tools such as employee self-service apps, productivity improvement apps, employee engagement apps, performance management apps and employee bots play a crucial role in improving the overall productivity of the employees. The apps and tools automate the repetitive activities and simplify the employee processes. **Systems of record** such as the CRM, HRMS and Payroll systems store master data and act as a single source of truth. **Security and infrastructure components** handle the cross-cutting concerns of a digital workplace.

Digital workplace platform – Principles

We should be aware of the key best practices and design principles while architecting a digital workplace platform. These principles guide us during the development of digital workplaces and while migrating from legacy to the digital workplace platforms. We have depicted the key principles of the digital workplace platform in Figure 13.

Consolidation Principles

Single Source of Truth	Data Integrity	Technology Standardization	Data de-Duplication	Data/Functionality consistency	Data Accuracy

Transformation Principles

Integration Principles

Headless Integration	Lightweight Integration	Stateless Integration	Software as Service	Opens Standards-based Integration	Contract-Driven APIs

Application Design Principles

Dependency Inversion	Modularity & Extensibility	Usability & Accessibility	Configurability	Separation of Concerns	Layered Design & Single Responsibility

User Experience Principles

Employee Journey Mapping	Persona Definition	Design Thinking	Minimalist Design	Omni-Channel Support	Information Architecture

Automation Principles

Conversational Interfaces	Virtual Assistants	Search	Recommendations	Process Automation	Test Automation

Operations Principles

Business Operations Principles

Faster Time to Market	Process Redesign	Metrics/KPI Tracking
Business Self-service	Employee Engagement	Business Agility

Technology Operations Principles

Open/Closed Principle	Self-Service	High Performance
Automated Maintenance	Adoption of Open Standards	Loose Coupling

Project Delivery

Change Management	CI/CD	Automated Release Management	Multi-speed IT	Iterative Testing	Continuous Improvement

Infrastructure Principles

Redundancy	High Availability	Containerization	Infra Ops and Support	Elastic Scalability	Real time monitoring

Security Principles

Token Based Security	Single-Sign-On	OWASP Guidelines	SOC2 Compliance	Iterative Security Testing	Data/Services Security

Figure 13 Digital Workplace Platform Principles

Figure 13 defines the key design principles we need for developing a robust digital workplace platform. We have identified five categories of principles for a successful digital workplace platform. **Consolidation principles** guide us to aggregate data, functions and services from various siloed systems into a single source of truth. During the consolidation process, we aim at avoiding data duplication and ensuring data consistency and data accuracy.

Transformation principles define the key guidelines for transforming a legacy application into the next-generation, forward-looking digital workplace. We have provided the key principles for integration, application design, user experience and automation in this category. Principles such as headless integration, stateless mode of integration and contract-driven APIs provide extensible and scalable integration models. Application design principles such as modularity, configurability, dependency inversion, separation of concerns, single responsible principle, and accessibility and extensibility form the guidelines for green-field development. User experience principles come in handy when designing intuitive, responsive, omnichannel-enabled and interactive user interfaces. Automation principles provide various tools for automating the processes.

Design principles related to the **operations** can be further categorised into business and technology operations. Business operations-related principles target to achieve business metrics (such as time-to-market and business agility) and technology operations related principles to help us create a modular extensible application. Infrastructure principles is all about providing a resilient platform with high availability, elastic scalability and great performance. Security principles define design principles such as token-based and multi-layered security.

Transformation to a modern digital workplace

The transformation of the virtual workforce can be accelerated using the following tenets[66]

- Use workplace platforms to LEAP (Learning, Experience, Access, Productivity)
- Adopt conversational interfaces such as Mindtree MindFlow, bots and cognitive computing
- Use microlearning platforms such as Mindtree's ShotClasses to accelerate onboarding and learning
- Augument physical reality with virtual reality for support and assistance in remote operations.
- Use automation to drive innovation.

Conclusion and Key takeaways

- The key paradigm shifts in the EX space are digital workplaces and employee experience platforms, consumerization of IT, process simplification, agile processes, gamification, mobile app, anytime anywhere work, self-service and cloud enablement.
- Employee expectations, technology disruptions, business imperatives and nature of work are the key drivers for the revolution of EX.
- The main challenges with traditional intranet platforms are lack of automation, information silos, frequent context switching, lack of consumer-grade experience, high costs, complex processes and such.
- A comprehensive EX optimization strategy needs to optimize various phases of the employee journey, the three dimensions (culture, physical and digital) of EX, the building blocks, and create a robust digital workplace strategy.
- The main phases in the employee journey are talent attraction and onboarding, orientation, learning and training, engagement, communication and departure. Culture, physical environment and digital environment are the three dimensions of EX. An organization has to foster the culture of innovation and creativity for providing better EX.
- We need to optimize the building blocks of EX such as user experience, accessibility and inclusion, communication and collaboration, personalization, productivity improvement, employee engagement, learning and self-development, automation, analytics and process optimization.
- The three pillars of digital workplace framework are business, innovation and people value.

References

1. Glassdoor study, 2015, https://www.glassdoor.com/press/company-culture-pay/)

2. https://enterprise.microsoft.com/en-us/articles/roles/it-leader/digital-workplace/

3. http://www.globoforce.com/wp-content/uploads/2016/10/The_Employee_Experience_Index.pdf

4. http://www.channelinsider.com/cloud-computing/slide-shows/a-dozen-reflections-on-clouds-mobility-and-more.html

5. https://www.lithium.com/company/news-room/press-releas-es/2014/lithium-launchesinaugural-customer-expectations-survey, April 2014

6. http://wikibon.org/blog/wp-content/uploads/2012/02/enterprise-cio-forum-full

7. Service Desk Trends: Market Outlook on Workplace Services - Soo Hyun Bahk

8. https://enterprise.microsoft.com/en-us/articles/roles/it-leader/digital-workplace/).

9. The Cost of Interrupted Work: More Speed and Stress," In: Proceedings of ACM CHI 2008 Conference on Human Factors in Computing Systems April 5-10, 2008, pp. 107-110.)

10. https://www.fuze.com/resources/definitive-guide-to-enterprise-collaboration

11. https://www.linkedin.com/pulse/workers-spendtoo-much-time-searching-information- hung-cao/

12. https://www.entrepreneur.com/article/240076

13. Enterprise Search and Findability Survey

14. Gartner Digital Workplace Summit 2017

15. https://www.gartner.com/smarterwithgart-ner/6-trends-on-the-gartner-hype-cycle-for-the-digital-workplace-2020/

16. https://www.gallup.com/workplace/244769/employee-experience-strategy-improve-performance.aspx

17. https://info.youearnedit.com/download-the-employee-experience-defined

18. YouEarnedIt Market Research Uncovers 10 Culture Building Blocks for an Optimized Employee Experience -https://www.prweb.com/releases/2018/02/prweb15229205.htm

19. https://www.forbes.com/sites/danschaw-bel/2013/12/16/10-ways-millennials-are-creating-the-future-of-work/?sh=8b137363105b

20. The return on investment of an Employee app - https://insights.staffbase.com/free-download-roi-of-an-em-ployee-app

21. Pentland, Alex. "How Social Networks Network Best". Harvard Business Review. February, 2009. p 37

22. "How companies are benefiting from Web 2.0: McKinsey Global Survey Results". McKinsey Quarterly. Septem-ber, 2009. Web.

23. The return on investment of an Employee app - https://insights.staffbase.com/free-download-roi-of-an-em-ployee-app

24. https://www.gartner.com/en/insights/change-management/changecommunication

25. The Age of Personalization: A Global Report by Mindtree - https://www.mindtree.com/sites/default/-files/2017-12/mindtree-survey-report-personalization-global.pdf

26. https://www.americanprogress.org/wpcontent/uploads/2012/11/CostofTurnover.pdf

27. https://www.towerswatson.com/en-US/Insights/Newsletters/Americas/ insider/2015/06/sev-en-things-to-know-about-employee-retention-risks

28. "The Value and ROI in Employee Recognition". Human Capital Institute. June, 2009. Web

29. Gallup: 37 Workplaces That Stand Out From the Rest

30. Gallup Q12 meta-analysis report, 2016, http://news.gallup.com/reports/191489/q12-meta-analysis-report-2016.aspx

31. http://www.cmswire.com/digital-workplace/improve-employee-communications-gilbaneconference-attendees-told/

32. http://www.computerweekly.com/news/2240174337/Low-level-tasks-eat-up-30-of-ITdepartments-time

33. Accenture Technology Vision 2016 Research. https://www.accenture.com/us-en/insighttechnology-trends-2016

34. "Three lessons from Airbnb", Jacob Morgan, Inc.com, September 5, 2017 https://www.inc.com/jacob-morgan/

35. Attention to Eight Building Blocks Ensures Successful Digital Workplace Initiatives, Carol Rozwell and Achint Aggarwal, June 15, 2016, G00274167 Gartner

36. https://www.gallup.com/workplace/229424/employee-engagement.aspx

37. The Employee Experience Index - https://www.ibm.com/downloads/cas/JDMXPMBM

38. Designing employee experience - https://www.ibm.com/downloads/cas/ZEND5PM6

39. The Digital Workplace Manifesto - https://www.clearbox.co.uk/wp-content/uploads/2013/01/digital-workplace-manifesto.pdf

40. YouEarnedIt Market Research Uncovers 10 Culture Building Blocks for an Optimized Employee Experience - https://www.prweb.com/releases/2018/02/prweb15229205.htm

41. http://news.gallup.com/opinion/gallup/225107/why-need-best-friends-work.aspx

42. https://www.amazon.com/Primed-Perform-Performing-Cultures-Motivation/dp/0062373986/

43. https://hbr.org/2009/10/making-time-off-predictable-and-required

44. https://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html

45. The Digital Workplace in the Cognitive Era—Positioning for the Future: Intelligent IT for the Anytime, Anywhere Workforce https://www.forbes.com/forbesinsights/ibm_mobility/index.html

46. The return on investment of an Employee app - https://insights.staffbase.com/hubfs/Whitepaper/HBR/Staffbase-Whitepaper-EN-ROI-of-an-Employee-App-B.pdf

47. Forbes Insights: The Digital Workplace in the Cognitive Era

48. Appirio: "The Future of Work: Why you need a digital workplace strategy," Oc. 21, 2015

49. IT Strategists Must Prepare for the Rise of Virtual Personal Assistants in the Workplace, July 23, 2015, G00279840, Van L. Baker and Whit Andrews, https://www.gartner.com/doc/3099127/it-strategists-prepare-rise-virtual

50. Smart Agents Will Drive the Switch From Technology-Literate People, to People-Literate Technology, May 2015, G00277198, Tom Austin, https://www.gartner.com/doc/3063817/smart-agents-drive-switch-technologyliterate

51. https://www.digitalistmag.com/future-of-work/2020/05/14/employee-experience-matters-in-work-from-home-world-06203628/

52. https://cisr.mit.edu/publication/2017_0601_EmployeeExperience_DerySebastian

53. https://blog.vantagecircle.com/employee-experience/

54. https://www.talenteck.com/academic/Kahn-1990.pdf

55. https://www.limeade.com/en/blog/employee-experience/

56. https://news.gallup.com/poll/241649/employee-engagement-rise.aspx

57. https://www.limeade.com/en/wp-content/uploads/2019/08/LimeadeInstitute_TheScienceOfCare_Summary.pdf

58. http://bit.ly/forecastpr

59. https://www.forbes.com/sites/jeannemeister/2017/01/05/the-emp-
     loyee-experience-is-the-future-of-work-10-hr-trends-for-2017/?sh=73f30e4a20a6

60. https://www.mckinsey.com/business-functions/organiza-
     tion/our-insights/covid-19-and-the-employee-experience-how-leaders-can-seize-the-moment

61. Robert M. Galford, Charles H. Green, and David H. Maister, The Trusted Advisor, New York, NY: Free Press, 2000.

62. https://www.mindtree.com/services/mindtree-consulting-solutions/workplace-technology-solutions

63. https://www.mindtree.com/services/mindtree-consulting-solu-
     tions/workplace-technology-solutions/talent-aquisition-onboarding

64. https://www.mindtree.com/services/mindtree-consulting-solu-
     tions/workplace-technology-solutions/unified-employee-experience

65. https://www.mindtree.com/services/mindtree-consulting-solu-
     tions/workplace-technology-solutions/workforce-productivity-success

66. https://www.mindtree.com/about/resources/accelerating-virtu-
     al-workforce-powered-experience-and-cognitive-platforms

67. https://www.mindtree.com/about/resources/digital-pumpkin

68. https://www.mindtree.com/products/microlearning-platform-mobile-first-shotclasses

69. https://www.mindtree.com/services/conversational-ai-old

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