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ENTERPRISE DIGITAL TRANSFORMATION

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FROM THE CEO'S DECK

We have entered a digital era. We are in a hyper competitive environment where enterprises have to constantly innovate and adapt to disruptive technologies. New age digital organizations that don't have traditional brick and mortar assets are rapidly disrupting the businesses of traditional organizations. We estimate that about half of the companies in the Fortune 2000 list will be displaced by digitally empowered organizations.

While most organization today understand the need to undertake a digital transformation exercise, many still struggle to define what "Enterprise Digital Transformation" truly is. There is still a lack of clarity on the fundamental differences between initiatives to modernize IT infrastructure vs. digital transformation.

Through our study we have strived to define "Enterprise Digital Transformation-EDT" and also clearly call out the differences between digital transformation and modernization of IT infrastructure. This report hopes to give a definition for EDT that can be used by all stakeholders in industry- both buy side and sell side.

The report also focuses on providing a broad framework that organizations can use to enable EDT.

We have recommend four steps for all traditional enterprises that are undertaking the Digital Transformation journey. The four steps include building EDT knowledge base and understand possibilities, assessing business and digital priorities, establishing a step-by-step methodology for digital readiness and finally implementing digital solutions incrementally and iteratively.

We believe businesses will need to focus on multiple initiatives to drive their digital transformation roadmaps. This includes relooking at their organization structure and building capabilities for a digitally enabled organization. We also believe a lot of the digital transformation initiatives will be implemented simultaneously with IT modernization programs.

This report strives to addresses all the above critical points and act as a guide for internal champions for digital transformation within their organizations.

Pari Natarajan

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01.

ENTERPRISE DIGITAL TRANSFORMATION

> It is not the strongest or the most intelligent who will survive but those who can best manage change.
> - Charles Darwin

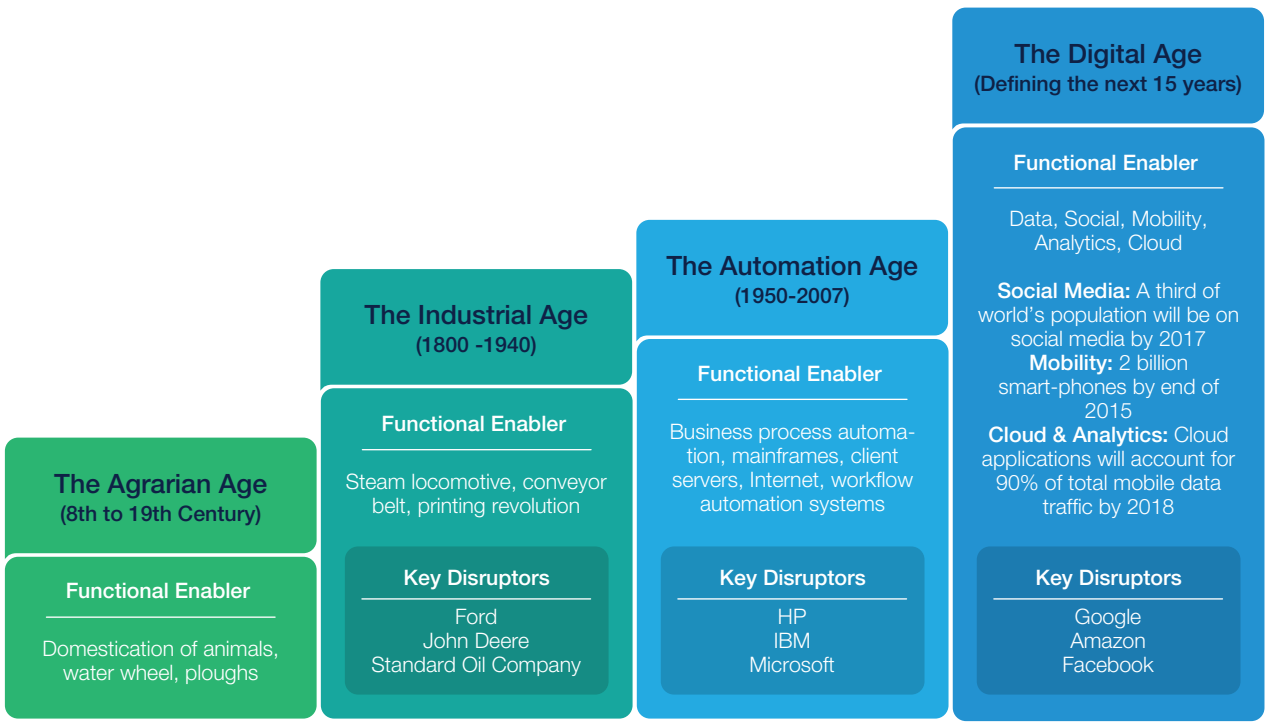
INTRODUCTION

The evolution of economies over the last many centuries can be broadly segmented into *four ages*. These ages can be defined by changing needs of consumers together with evolving businesses to fulfill these needs. For centuries businesses have had to transform and adapt in order to survive. The type of transformation undertaken has invariably been governed broadly by business goals an organization seeks to achieve together with the business environment it needs to flourish in. These transformations can clearly be demarcated based on the primary source of wealth creation, inventions that have driven consumer behavior and growth of technology as an enabler of business growth.

Over the centuries, the pace at which organizations have had to transform themselves has witnessed rapid growth. The time taken to transition between ages has progressively declined.

Today we are in digital age where economies across the globe are extremely intertwined and power rests in the hands of consumers with role of consumers not limiting to buyers only. In a majority of cases, consumers are producers and co-creators as well. The digital age has at its forefront a new breed of entrepreneurs that are breaking all traditional mindsets to how businesses are run. The digital age also have opened up a global landscape where customers and competition aren't just in home markets but can be anywhere in world.

The four ages of business evolution have been discussed in brief below:



Business evolution through the ages
Source: Zinnov Analysis and Research

The Agrarian Age
(10,000BC-1700 AD)

This age witnessed agriculture as the primary source of income. Cattle and agricultural produce were the primary drivers of the economy. The age witnessed some of the earliest inventions, which laid the foundation for every future invention known to mankind.

The automation age is marked by the growing focus on driving business growth for benefit of all stakeholders. The focus has been on driving efficiencies and increasing profitability. The age also witnessed process improvements through reduction in human intervention and leveraging technology in multiple areas.

It is also the age of computing, where consumers for the first time felt empowered with access to information. This age also witnessed the evolution of social networks from a physical closed knits group to large virtual communities.

The Digital Age
(Next 15-20 years)

We have just entered the digital age. It is an age that is going to be marked by infinite power to consumers. Consumers having access to significant technology resources will play a key role in determining how businesses need to evolve, with businesses being forced to offer new age products and services.

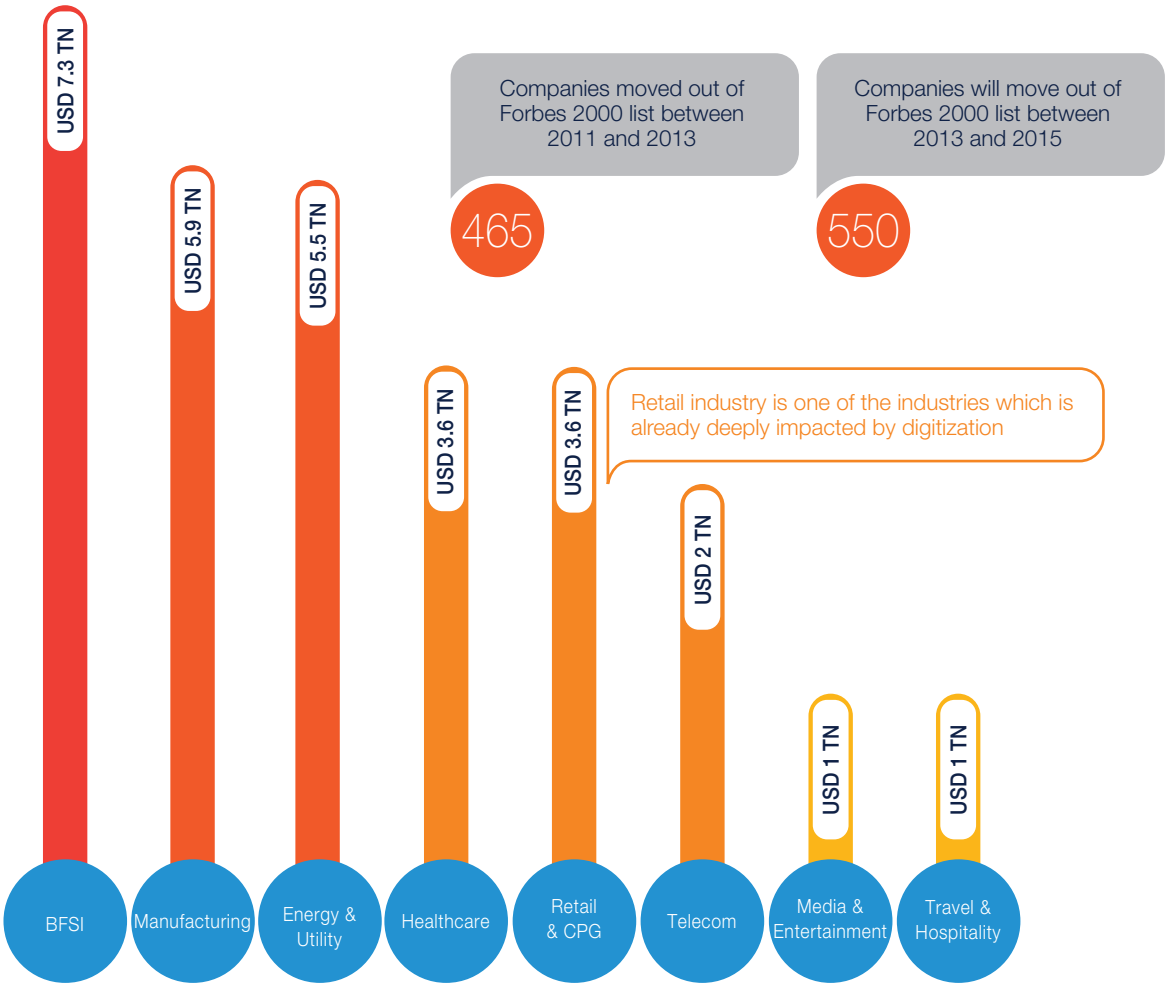
The age will witness the emergence of organizations that co-create with customers. There will also be growth in amount of data created by consumers and their networks. Organizations will begin to leverage this vast swathes of data to evolve into business that can survive in a data driven, technology enabled world.

The digital age is very different in its impact on business from the three ages discussed. It is marked by very little room for error in business. Organizations not only need to transform their products, services and processes to deliver the same, but also in many cases fundamentally consider restructuring their business.

Today in digital age, Organizations are being forced to change their entire outlook, undertake structural changes and implement the same at a rapid pace. These changes need to iteratively evolve to account for the changing mindset of an empowered customer. The organizations that fail to match pace might fail to survive.

As per our research estimates, over USD 30 trillion of market capitalization would be disrupted by digitalization. This disruption will impact 8 key industry verticals.

This also indicates that in the next 2-3 years, over 550 companies in the Forbes 2000 list would move out, and be replaced by organizations that are far more tuned to a digital universe.



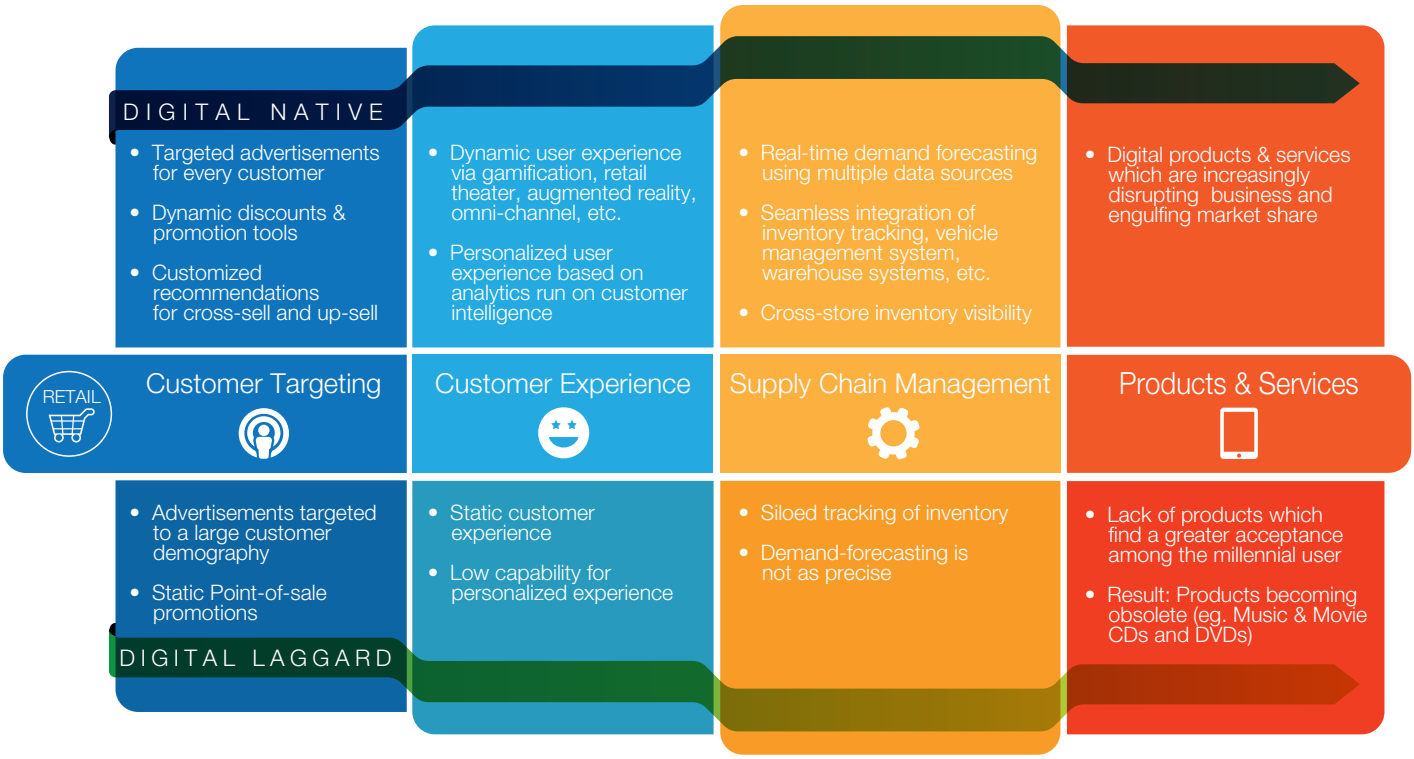
Disruption of market capitalization across industry verticals
Source: Zinnov Analysis and Research

Among all verticals, retail industry has been impacted the most by digitization. Digitally native enterprises have fundamentally changed the business and operations landscape, and consequently moved ahead of the pack. The erstwhile approaches towards customer engagement and targeting have proved to be ineffective as they focus on large demographics and offer limited choices. With the transition of power into the hands of the tech-savvy millennial customer, digital native retailers are targeting customers and engaging with them in newer & innovative ways via a range of channels.

Instead of dispensing mass promotions, digitally native retailers target every individual by triangulating data procured from multiple sources such as social media, browsing footprint, point-of-sale devices, in-store interactions, and app usage. This helps in ensuring an ongoing relationship with every customer in a meaningful and personalized manner. In addition, context-based targeting helps digitally native retailers predict customer behavior thereby requirements and purchases more accurately.

Digitally native retailers also provide their customers enriched personalized experiences both online and in-store. They have successfully merged the boundary between physical and digital realms seamlessly in order to provide the perfect continuum of experiences called the 'Phygital'experience. By leveraging customer intelligence from the aforementioned data sources together with new-age technologies, digital natives have transformed the erstwhile experience to dynamic, interactive and customized one. Gamification, Retail Theater and Augmented Reality are being increasingly used to engage with customers digitally in a physical brick-and-mortal environment. Omni-channels enable enterprises sync the experience they provide and their targeting across multiple devices and channels.

The exponential disruption in today's world by the digital natives has made it imperative for traditional enterprises to transform. Their only solution for staying relevant is Enterprise Digital Transformation.



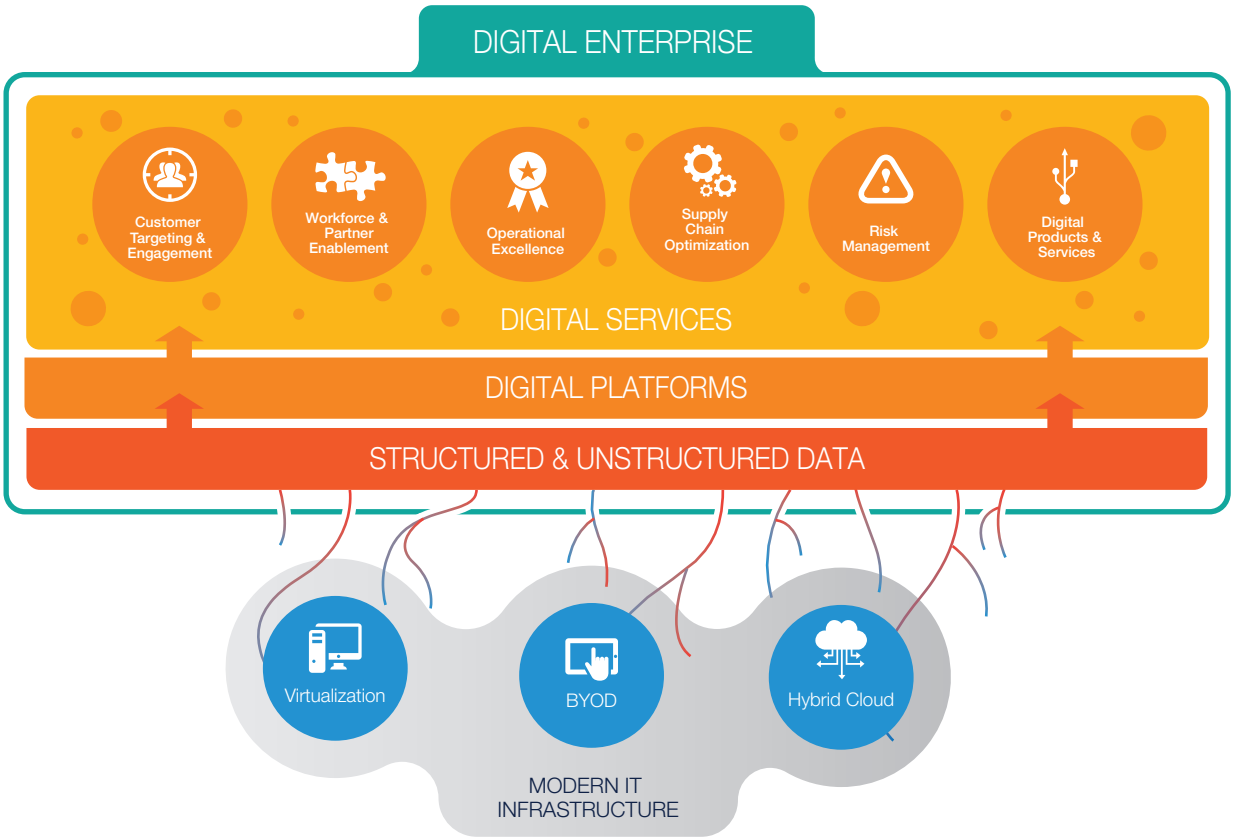
Retail Industry approaches across the value chain as used by digital natives and digital laggards

EMERGENCE OF DIGITAL ENTERPRISE

A digital enterprise rests on the foundation of modern IT infrastructure. Virtualization, hybrid cloud, handheld devices, and sensors enable a digital enterprise to effectively capture and store large volumes of structured and unstructured data, as well as establish flexible, scalable and intelligent networks. The procured data is fed into a data integration platform, where it is curated, standardized and contextualized in order to provide a unified view. Digital enterprises leverage curated data and analytics engines to provide digital services across the following six horizontals:

- Customer Targeting and Engagement
- Workforce and Partner Enablement
- Operational Excellence
- Supply Chain Optimization
- Risk Management
- Digital Products and Services

Digital enterprises reap manifold benefits, tangible and intangible, ranging from increase in top-line and bottom-line, growing customer base, high customer satisfaction, and better productivity.

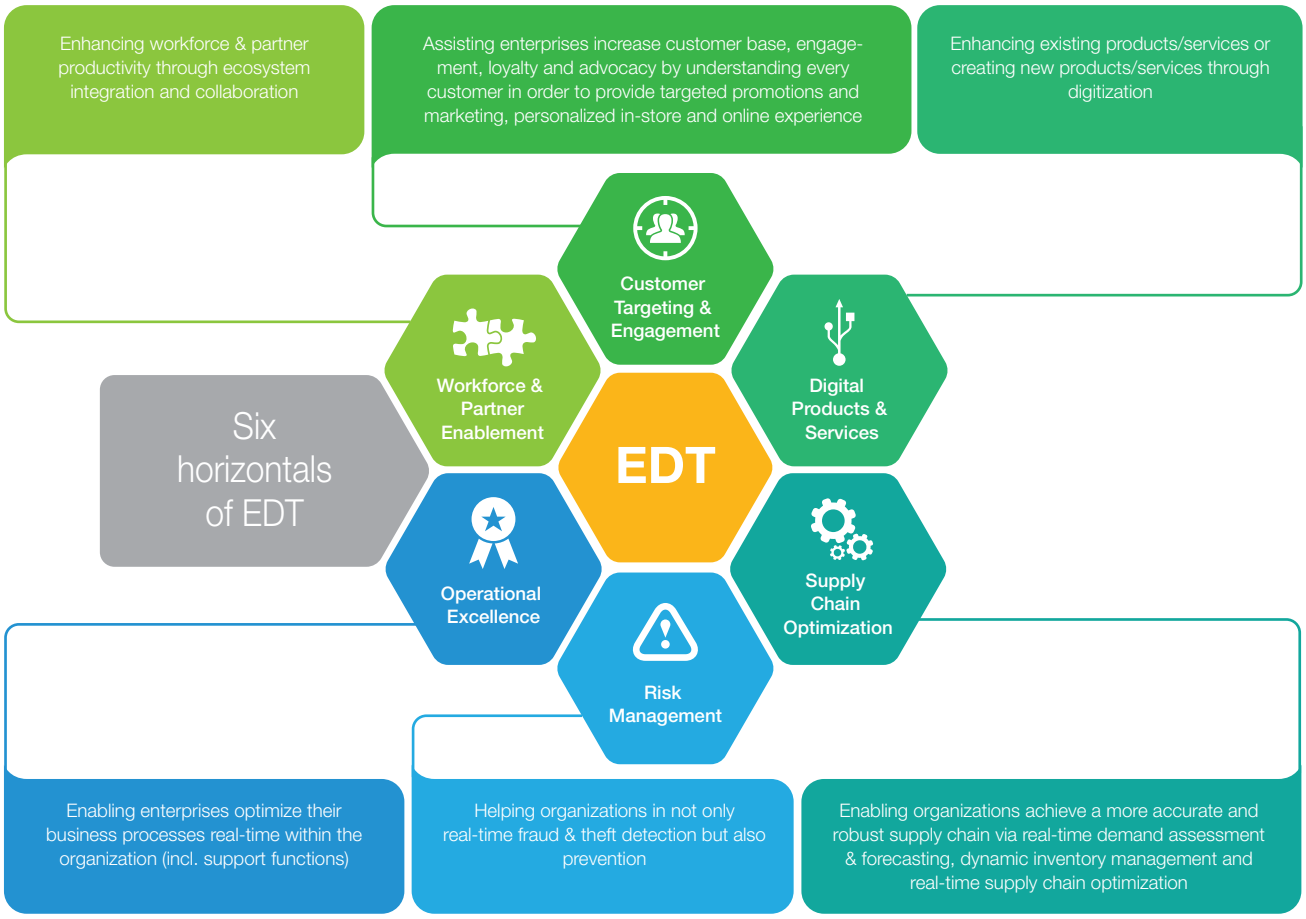


Architecture of Digital Enterprise
Source: Zinnov Analysis and Research

DEFINITION

Data driven enterprises leveraging contextual, public and internal enterprise data and using new-age technologies to generate deep insights that are both predictive and prescriptive to drive exponential business impact.

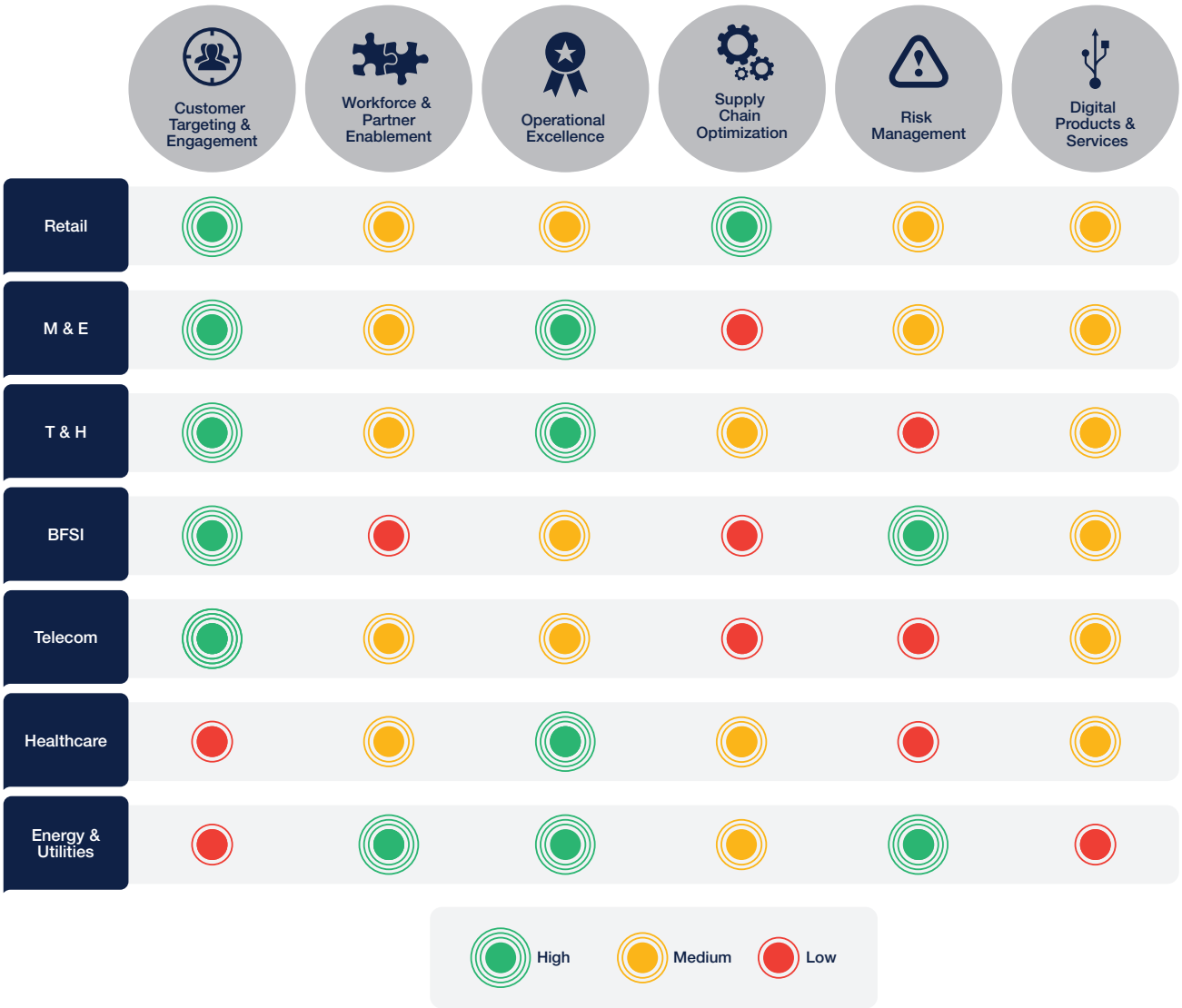
As stated earlier, Enterprise Digital Transformation comprises six digital services:



The six digital services exhibit varying potential for digital disruption across verticals. Retail, Media & Entertainment, Travel & Hospitality, BFSI, Telecom, Healthcare and Energy & Utilities were the 7 verticals analyzed and evaluated for Digital Disruption Index (DDI) across 6 digital services.

Digital Disruption Index takes into account the current digital maturity as well as the potential for future digital disruption. Our research indicates that Retail, Media & Entertainment, Travel & Hospitality, Retail Banking and Insurance (micro-verticals of BFSI) demonstrate the highest potential for disruption.

> From an EDT perspective, customer facing verticals like Retail are most digitally advanced.



EDT maturity against industry verticals
Source: Zinnov Analysis and Research

02.

ENTERPRISE DIGITAL TRANSFORMATION MARKET OVERVIEW

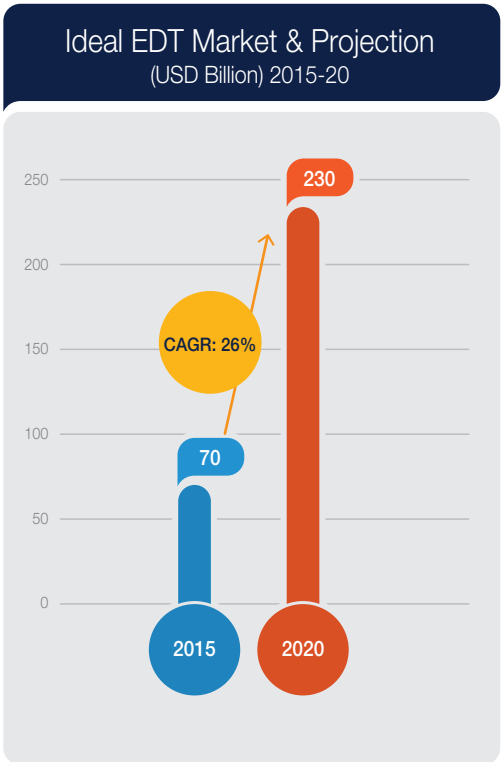
Enterprise Digital transformation is emerging as a key driver for technology spend. The market opportunity in this segment is expected to witness rapid growth in the near future. Enterprise Digital Transformation will impact enterprises across all industry verticals. However, the impact of EDT is expected to be higher in customer facing industry verticals such as Retail, Media & Entertainment, Travel & Hospitality, and BFSI that are expected to spend a large percentage of their digital budget on Customer Targeting & Engagement. On the other hand, verticals such as Healthcare, Manufacturing, and Energy & Utility will invest in building operational excellence capability.

EDT spend in 2015 is projected to be approx. USD 70 billion which is estimated to reach USD 230 billion by 2020. The following section discusses in detail ideal spend on EDT across industry sectors.

EDT MARKET SPEND

> Traditional enterprises should invest USD 70 billion in 2015 in order to stay competitive against digitally native firms.

Our research indicates that technologically advanced countries will contribute a proportionally higher percentage to EDT Spend. North America will account for more than 40 percent of the projected Ideal EDT spend in 2015. This will be driven by the presence of digital hubs in Bay Area and New York City together with easy access to digital technology which forms the infrastructure backbone of Enterprise Digital Transformation.



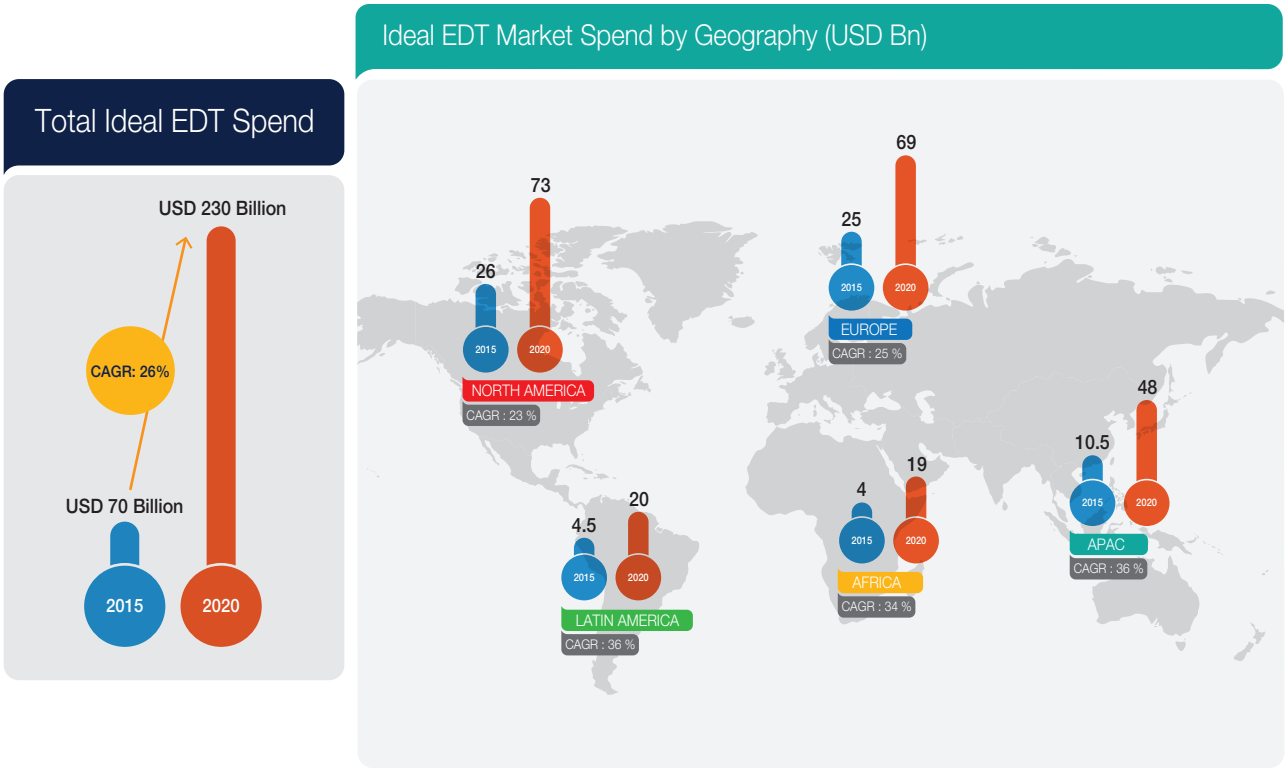
Key Insights

North America is expected to contribute over 40% of the Enterprise Digital Transformation spend. APAC and Latin America will lead in growth rate

Customer Targeting & Engagement is a primary focus area for enterprises and will constitute 33% of the spend

Verticals focused on B2C business will spend a larger percentage of digital spend on Customer targeting and engagement

EDT spend and projection
Source: Zinnov Analysis and Research

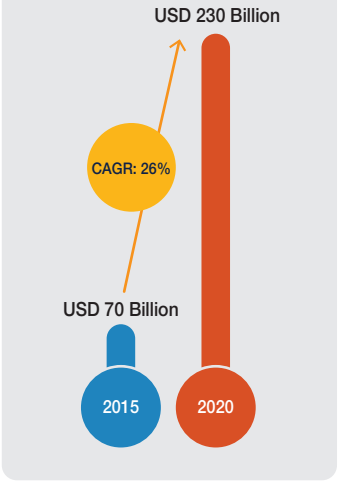


EDT Market Spend Opportunity

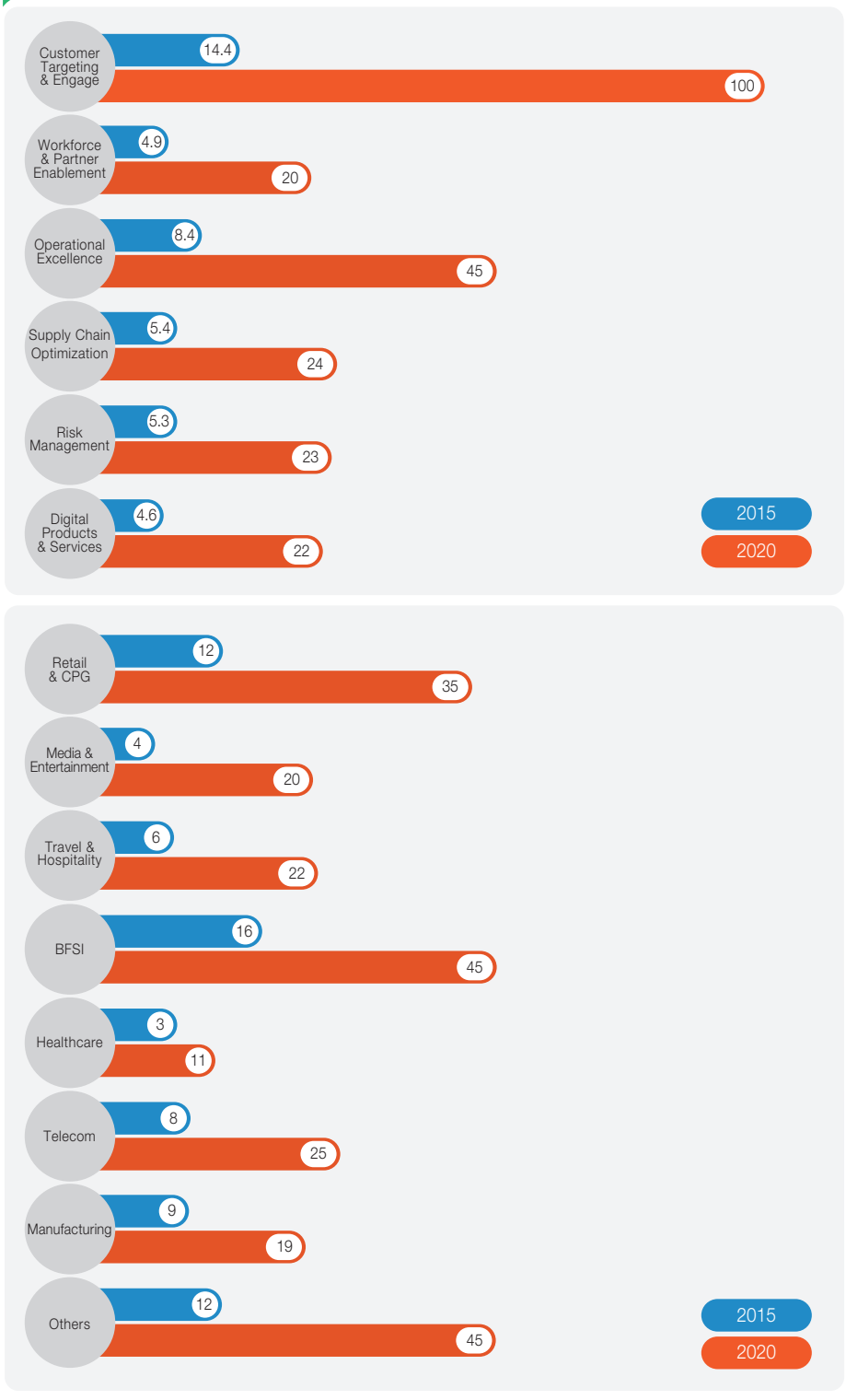
According to our estimates, Latin America and Asia Pacific are expected to witness high growth rate in EDT spend due to rapid globalization and rise of a plethora of small and medium enterprises.

With EDT being an effective tool for targeting and engaging millennial customers, approx. USD 14.4 billion (in 2015) is expected to be invested in Customer Targeting and Engagement in Digital Transformation. The expenditure is projected to reach USD 100 billion by 2020. In addition, enterprises are focusing on enhancing their business processes for optimizing their operations. Our research indicates that enterprises will spend an estimated USD 8.4 billion on enhancing Operational Excellence in 2015.

Total Ideal EDT Spend



Ideal EDT Market Spend (USD Billion)



EDT Market Spend Opportunity Assessment

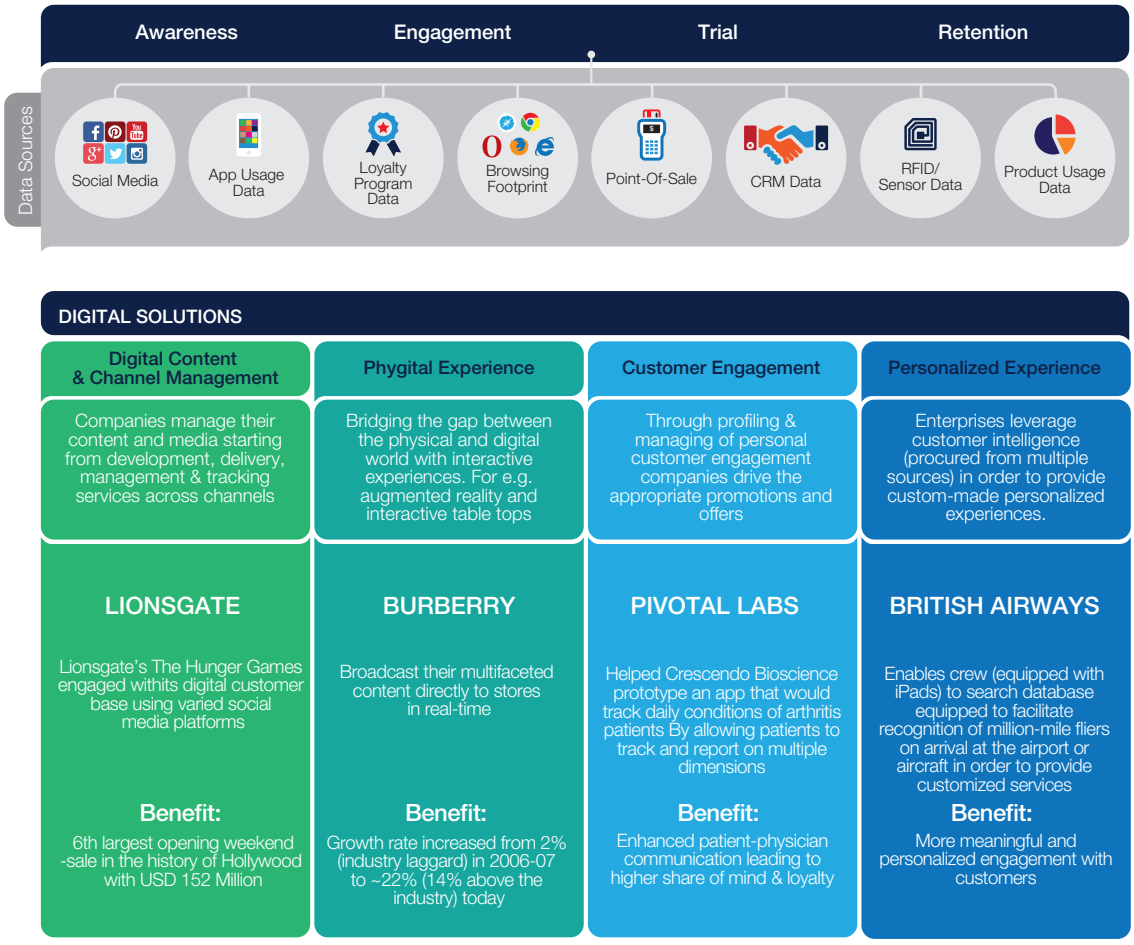
EDT TRENDS

As discussed in the previous section, Digital Enterprises leverage contextual data to implement solutions that enhance value chain. EDT solutions drive business growth across the six key horizontals discussed below:-

Customer Targeting and Engagement

Enterprises are using digital solutions to engage with their customers, create awareness about new products and build brand loyalty. Businesses have shifted from traditional transaction based short term interactions with customers to long term relationship-building engagement models.

With customer being increasingly empowered, enterprises are striving to maintain a competitive edge by offering personalized experiences, customized promotions and omni-channel facilities for a consistent experience.



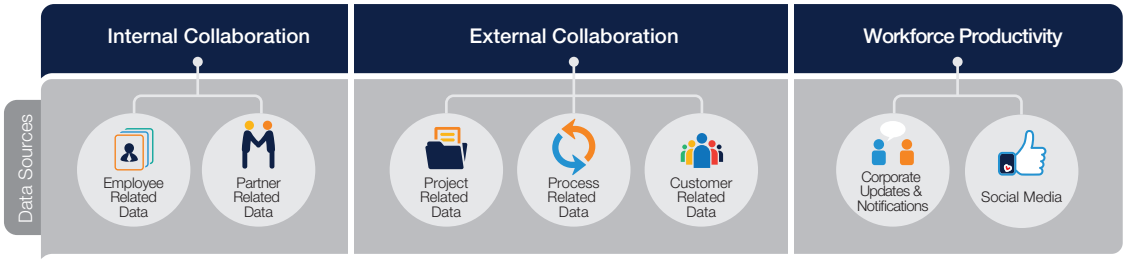
Value chain and digital solutions for Customer Targeting and Engagement

Workforce & Partner Enablement

Enterprises are using EDT solutions to drive internal and external collaboration with their partners and stakeholders.

Companies such as Deloitte are leveraging gamification to improve both internal and external collaboration.

Similarly sales teams at GE Aviation were successful in achieving significant time savings with efficient digital knowledge-sharing solutions.



DIGITAL SOLUTIONS

Efficiency-Oriented Knowledge Sharing	Branding-Oriented Gamification	Real-Time Partner Connect
Enterprises use online collaboration platforms in order to facilitate real-time sharing of information, ideas, knowledge, best practices and experiences between employees, thereby fostering a culture of innovation. This has resulted in companies reaping benefits such as increased efficiency, cost savings, etc.	Enterprises are also using gamification as a part of their collaboration platforms to increase internal and external branding as well as training.	Collaboration tools are also used by enterprises to facilitate real-time interaction and information dissemination between enterprises and partners.
CEMEX Sharing experiences & ideas via an online platform in CEMEX's alternative fuels program to reduce CO2 emissions by 1.8 million metric tons annually **Benefit:** Savings worth USD 140 Mn & USD 80 Mn in CO2 credits' sale	**DELOITTE** Implemented gamification on clients and employees undergoing training at company's online training program **Benefit:** 37 percent increase in the number of users returning to the site each week	**NESTLE** Help connect with its marketers, brand managers and partners in 190 countries by sharing knowledge, best practices and creative assets across the network
GE Real-time sharing of documents & quick location of experts **Benefit:** Sales teams at GE Aviation reduced weeks' work to minutes	**JIVE** Jive Gamification Module adds gamification to Jive's social business platform **Benefit:** Boost activity & engagement	**ACCENTURE** Helped P&G deploy customized talent management applications **Benefit:** Speedier workforce planning and talent management processes

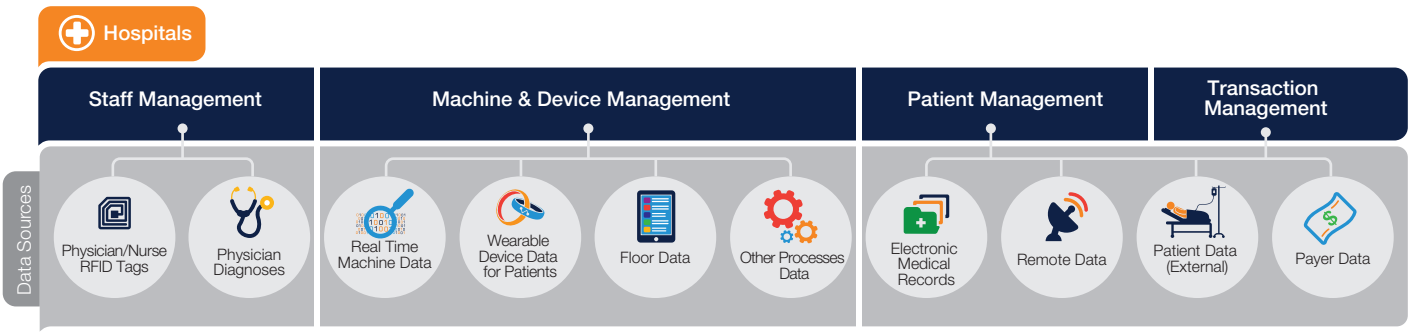
Value chain and digital solutions for workforce and partner enablement

Operational Excellence

The operations value chains across different industry verticals are diverse and complex. As an illustration, we have chosen healthcare providers to demonstrate how enterprises are leveraging data and technologies to make their operations more efficient and effective.

Real-time asset tracking and decision support systems have helped these providers reduce costs and reach out to a larger customer base.

Enterprises at the forefront of the digital revolution are leveraging digital technologies and data to make their business processes more efficient, accurate and agile.



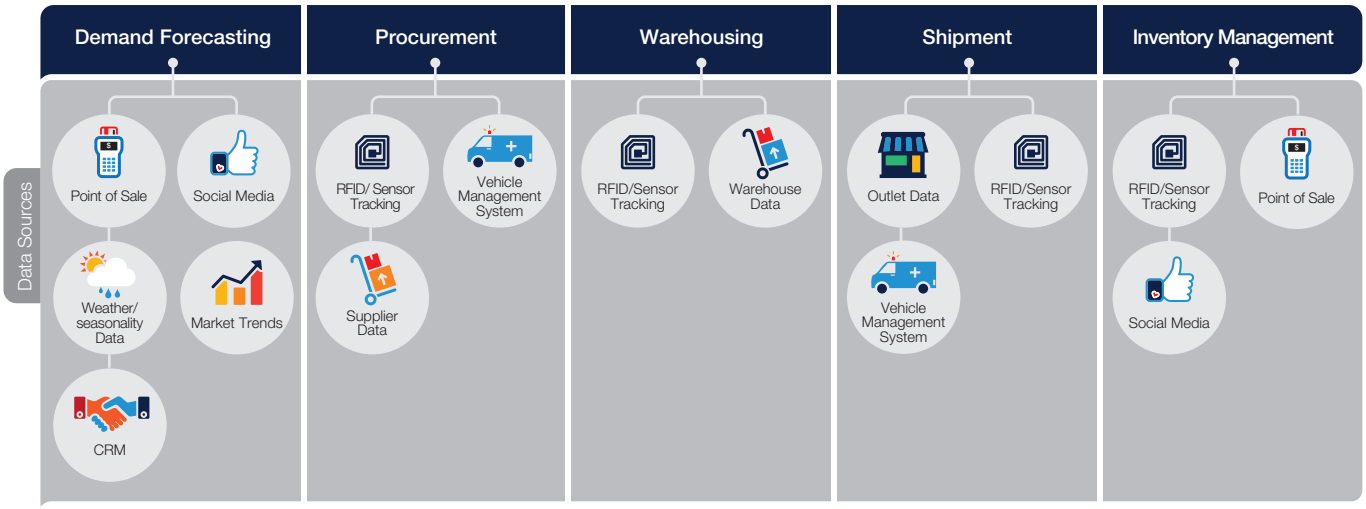
DIGITAL SOLUTIONS (HEALTHCARE)		DIGITAL SOLUTIONS (NON HEALTHCARE)	
Real-Time Asset Tracking & Optimization	**Decision Support**	**Predictive Success Gauging**	**Automation**
Real-time location tracking technologies, including infrared and RFID on equipment and human resources to provide real time insights to admin and other senior stakeholder on mobile platforms to monitor and expedite processes and identify optimum allocation and usage, thereby ensuring a lean and agile set-up.	This entails analytics run on patient/physician/equipment data (both pre and post-discharge) to effectively provide physicians relevant information and insights about the effectiveness of drugs and treatment and decisions on potential diagnoses.	This provides an enriched predictive in-depth view into the performance of production house releases, sports players, etc. for gauging potential success, scouting, training, etc. by identifying patterns in past data, blending them with current data points, and trends from social media analytics in order to take action for improving business performance.	Automation of workflows and processes in order to make them more efficient.
TEXAS HEALTH Harris Methodist Hospital & UNIVERSITY OF MARYLAND MEDICAL SYSTEMS RFID-tagging all high-value assets, emergency medications, wristbands on patients & staff badges to ensure optimization **Benefit:** Over the last year RFID has saved the Texas Health Alliance USD 780,000	**CLEVELAND CLINIC** Uses IBM's Watson as an assistant in research & understanding of complicated patient use cases to arrive at diagnoses **Benefit:** Physicians can tend to a larger number of patients	**UNIVERSAL STUDIOS** Ran social media analytics to assess the buzz generated by the movie (Pitch Perfect) pre-release **Benefit:** Data mining from Twitter helped them change their pre-release strategy for the movie	**PERSISTENT SYSTEMS** Collaborated in developing handheld device for Bridgestone for automating and centralizing their tire data tracking system **Benefit:** Improved productivity by 800%

Value chain and digital solutions for Operational Excellence (Hospitals)

Supply Chain Horizontal

With markets being extremely volatile and dynamic in digital age, needs and nature of customers is evolving constantly. Therefore predicting demand is a key challenge. Hence supply chains can no longer be reactive to market changes, rather need to be more predictive in nature.

Supply chains are moving from being linear & simpler to broader complex networks while becoming more flexible and fortified against disruptions, thereby resulting in profitable and effective supply chains.



DIGITAL SOLUTIONS

Demand and Supply Management	Sensor-based Tracking & Optimization	Cross-Store Inventory Management
Ensuring faster response to market changes and changes in the supply chain by utilizing structured and unstructured data gathered (such as sales, customer trends & profiles, purchase patterns, weather data, seasonal variations, clinical records, patient data, etc.)	Tracking inventory real-time via sensors or RFID tags in order to have better visibility over various components of the supply chain as well as efficient optimization of the same.	Uses real-time data tracked and monitored in order to perform analytics for optimization of inventory levels, warehouse management, inventory wastage analytics, stock-out predictions to ensure cross-store omni-channel inventory management and the endless aisle.

ACCENTURE	TESCO	J. B. HUNT	BURBERRY	CROCS
Helped Spirit AeroSystems enhance supply chain & obtain better business intelligence in near real-time	Analytics to determine demand patterns caused by special offers	Sensor based technology and GPS to improve visibility of shipments and improve fill-rates	Real-time inventory tracking and management to facilitate cross-store ordering & endless aisle	Implemented endless aisle solution in 200-plus stores in the US
Benefit: Accurate and near real-time view of order status for better decision making	**Benefit:** Saved about £30m of stock a year	**Benefit:** Increase in EBIT margin from 3% to over 11% in 4 years resulting in a quintupling of its share price	**Benefit:** Customer gets the desired item within 7 days of purchase regardless of availability in the store	**Benefit:** Helps Crocs cope with small retail space

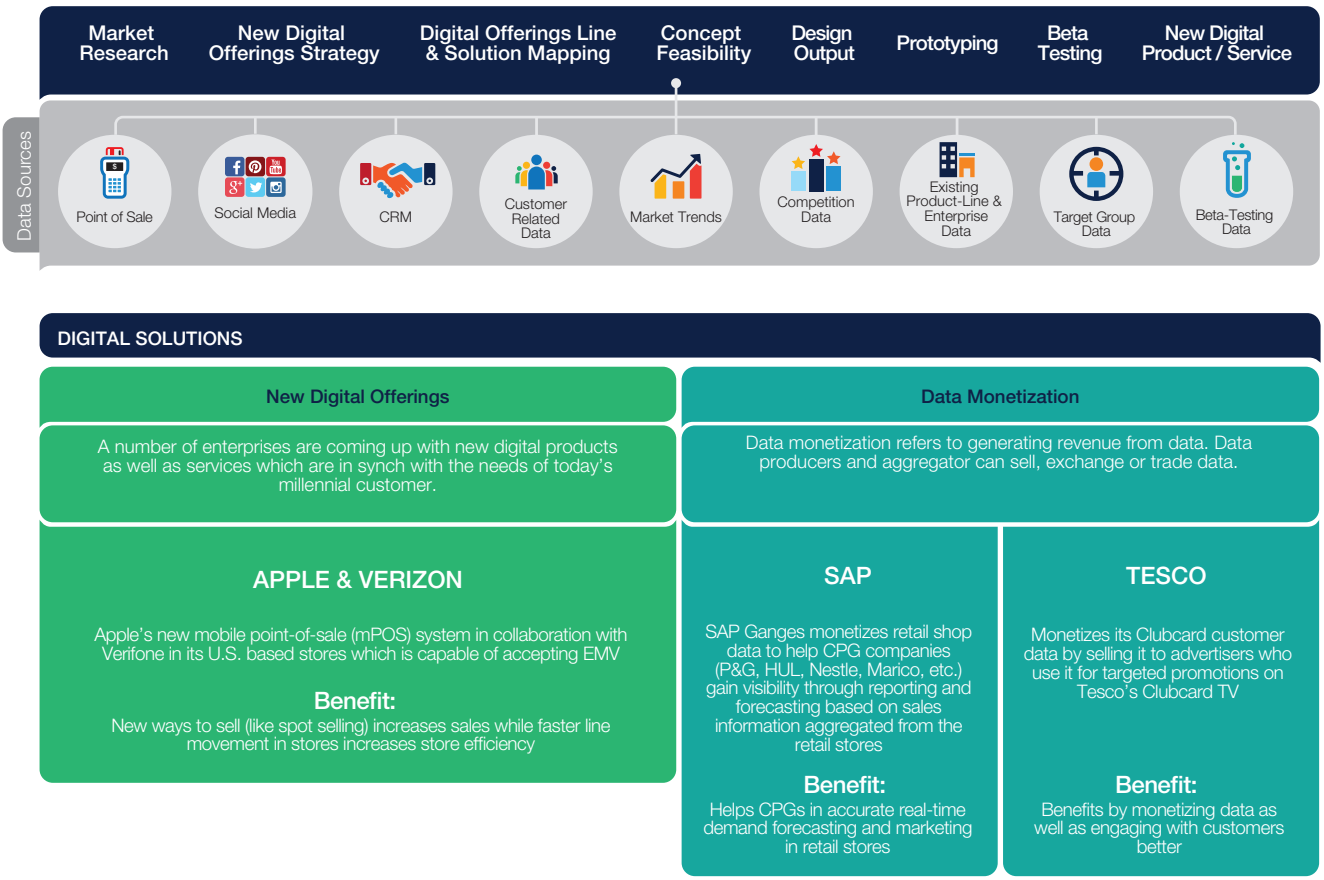
Value chain and digital solutions for Supply Chain

Risk Management

Value chain and digital solutions for Risk Management (Banks)

New Digital Products & Services

Enterprises are also launching new digital offerings as well as monetizing their data. These offerings have helped companies to increase sales and improve efficiency. Monetizing data helps businesses engage with their customers in a better manner and facilitate real-time demand forecasting and marketing for their partners.



Value chain and digital solutions for New Digital Products & Services

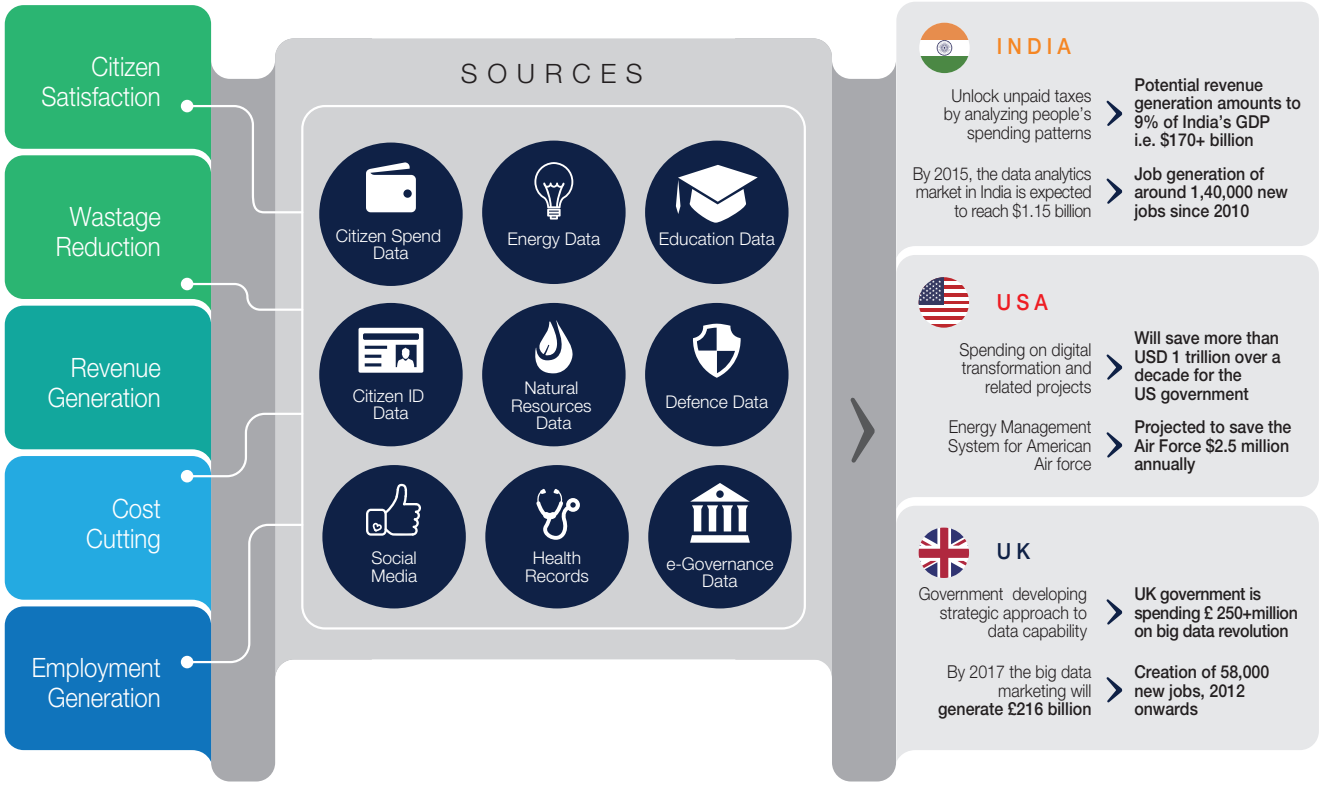
Government

Governments across the world are considering 'going digital' as the primary solution for not only increasing efficiency but also for the satisfaction and ease of their citizens. Governments of various countries have started allocating specific budgets towards digitization.

The Australian Taxation Office plans to use a technology based on voice identification and analytics to make the communication between citizens and the government more secure. This initiative will result in increased convenience and satisfaction for their citizens as well as savings of up to 45 seconds per call.

In November 2012, the UK Government launched an elaborate digital strategy called Government Digital Strategy (GDS) with a vision to be agile, flexible and digital by default.

The initiative aims to deliver efficiency savings of GBP 0.4 to 0.7 billion to citizens and GBP 1.7 to 1.9 billion to the government every year. GDS will also improve user experience by having a single portal for all government information and services.



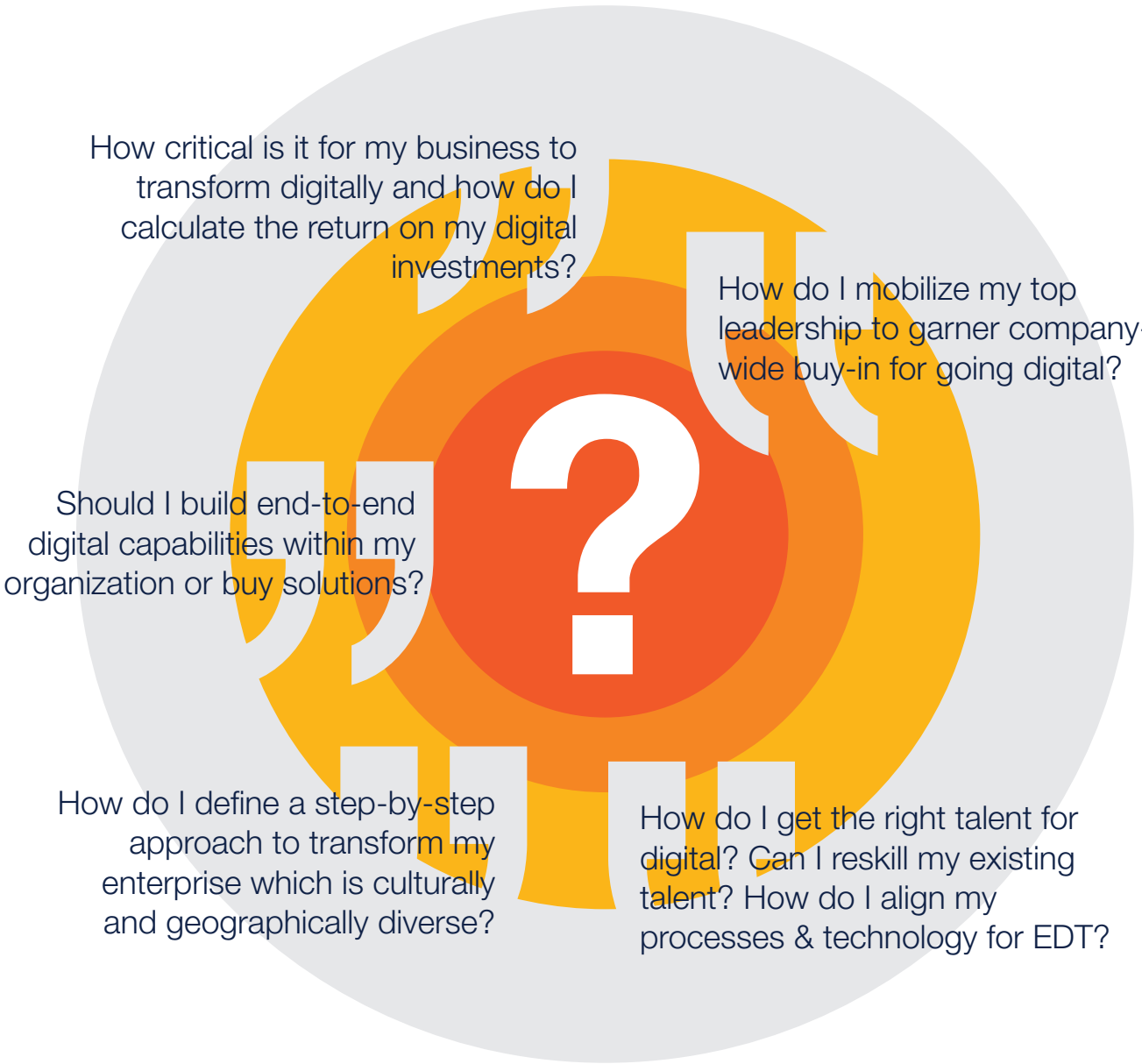
EDT market spend by Goverments worldwide
Source: Zinnov Analysis and Research

03.

ROADMAP FOR ENTERPRISE DIGITAL TRANSFORMATION

CHALLENGES

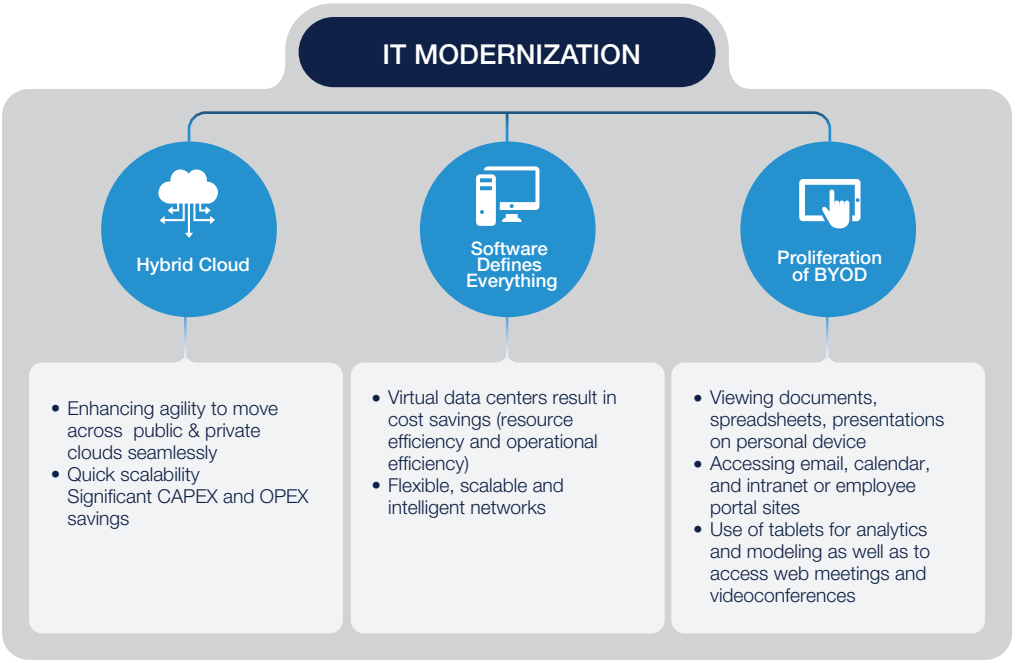
EDT adoption is gaining immense popularity. However, business leaders around the globe have some apprehensions towards EDT adoption. Below some of the key apprehensions stated by experts have been illustrated:-



Our discussions with some of the top business leaders have helped us in attaining in-depth understanding of the challenges faced by the enterprises when commencing on their digital journey. The key challenges include core business, enterprise readiness and implementation challenges. Core business challenges present the largest roadblocks with organizations facing issues such as lack of capability to create a business case for digital technology and concerns around ROI for digital initiatives.

EDT Implementation Challenges

Often EDT is confused with IT modernization. However, the approach for EDT differs distinctly from IT modernization. Over the last 5 years, enterprises have been focusing on modernizing their IT infrastructure. IT modernization entails modifying existing system to incorporate advanced computer programming language, software libraries, protocols, or hardware platforms whereas EDT is strategic, and involves transforming the organization for the next horizon of growth.



IT modernization projects are traditionally large duration projects. The below 3 IT modernization options are available for legacy systems:

Migration from legacy systems to new generation languages, databases or OS is a common cost-effective approach. Examples of this approach include migration from 2nd generation to 3rd or 4th generation languages; from legacy to RDBMS; from one RDBMS to another; migration from one OS to another. Software written in modern languages can also become monolithic and difficult to change. Thus, it also falls under modernization imperatives.

Re-hosting from legacy systems comprises running the same legacy applications on a different platform. This approach is often used as an intermediate stage. The examples of this option include re-hosting of mainframe applications on Unix/Linux or Windows.

Re-Engineering is considered to be the most efficient and agile way to transform legacy systems. Re-Engineering comprises re-building applications in a new technology or platform, with similar or enhanced functionality. Rebuilding applications by adopting Services Oriented Architecture (SOA) is a common example of this approach. This type of modernization can reduce operational costs drastically and help unlock benefits from the latest software functionality.

IT MODERNIZATION AND EDT

The approach required to digitally transform an enterprise is fundamentally different from the approach for IT Modernization. Although IT modernization is an enabler for EDT, the approach that is used for IT modernization cannot be used for EDT. The primary differences between the two are highlighted in the infographic:

	IT Modernization	EDT
Stakeholders involved	Primarily CIO	CIO + CDO + Functional Teams + BU teams
Impact on business value chain	Low impact	Impact on all parts of the value chain
Change management	Only within IT organization	Across multiple teams & processes
Skills	Existing IT skills	New digital talent
Technology service providers	Traditional service providers	New-age service providers
Approach	Structured step by step process	Agile process – incremental & iterative

Differences between IT Modernization and EDT

ROADMAP

Zinnov has developed a **four**-step EDT process for all traditional enterprises undertaking the Digital Transformation journey. The process involves building EDT knowledge base and evaluating possibilities, assessing business and digital priorities, establishing a step-by-step methodology for digital readiness, and subsequently implementing digital solutions incrementally and iteratively.

Zinnov EDT Framework

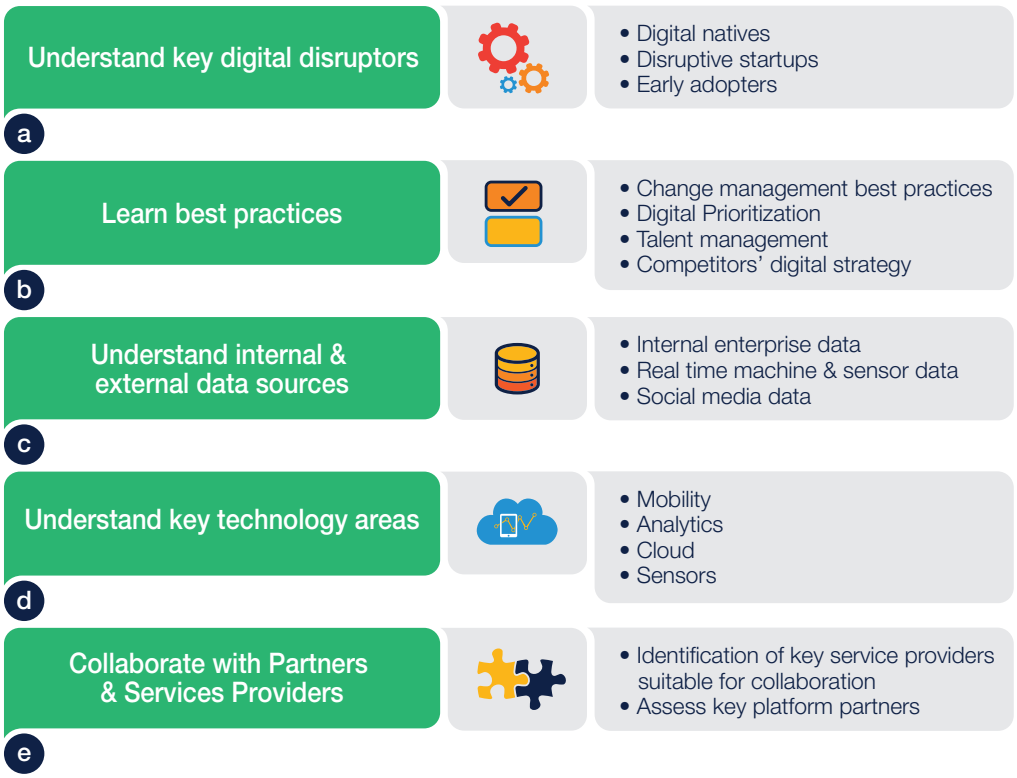
STAGE 1

Enterprises need to build their knowledge base on EDT for understanding varied possibilities before designing their digital strategy.

Enterprises need to study and analyze the digital disruptors – digital natives, start-ups and early adopters in order to learn and adopt best practices, understand their approach towards change management, talent management and prioritization of digital initiatives.

With the objective being to learn from peers and competitors how they manage their digital assets, it is essential for enterprises to understand their external & internal data sources, and evaluate data availability. In addition, enterprises need to estimate future data requirements and ascertain their digital readiness. Assessing digital readiness together with building capabilities in key technology areas such as mobility, analytics, cloud and sensors are pre-requisite for digital transformation.

The last step for enterprises focusing on digital transformation involves attaining in-depth understanding of how to collaborate with partners and service providers.

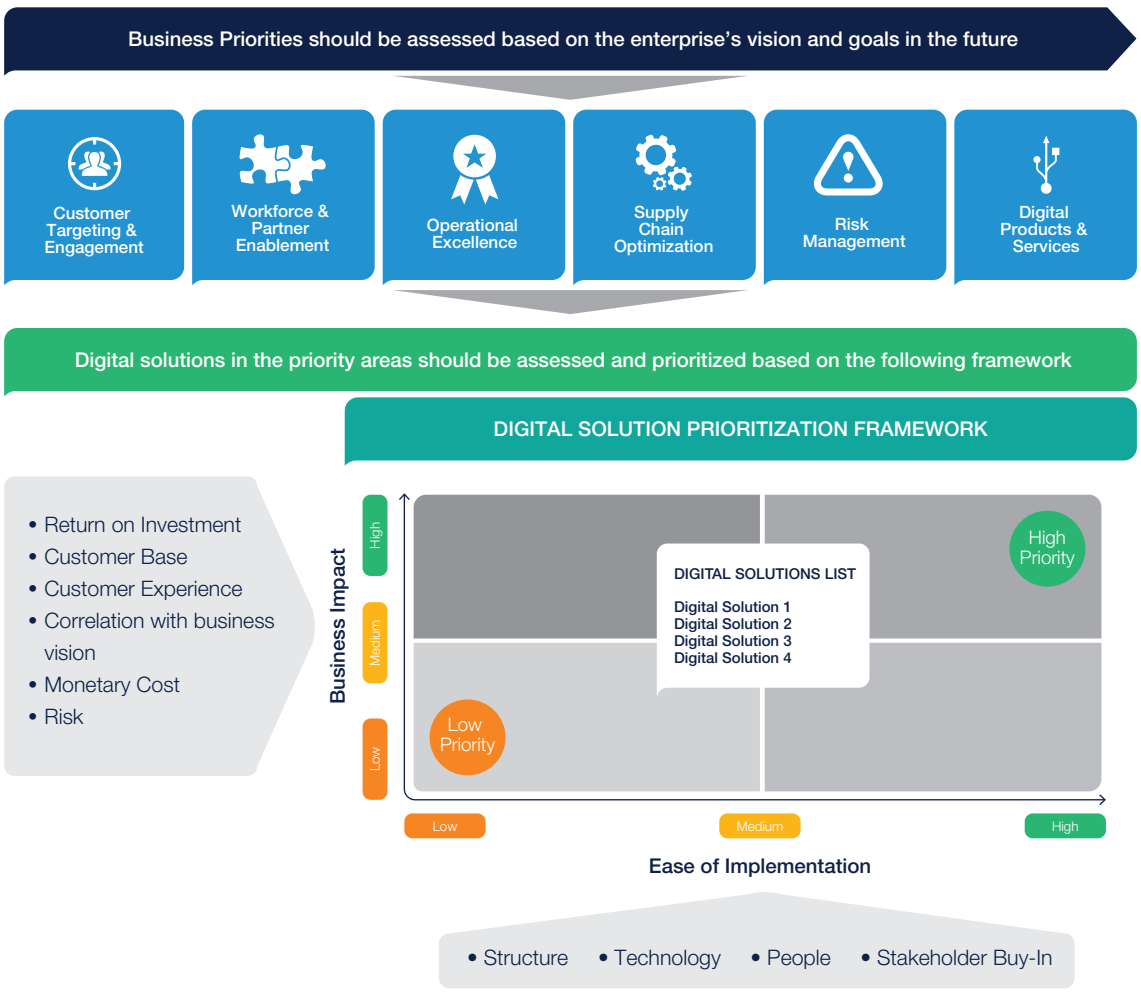


Building knowledge base around EDT

STAGE 2

Enterprises needs to assess its Business Priorities and Digital Solutions

It is essential for enterprises to assess their business priorities across the six horizontals of EDT based on their vision and goals for the future. This will help enterprises in attaining an understanding of the existing gaps, which can be addressed by a gamut of digital solutions. In a majority of cases, there exist multiple digital solutions to the same problem. With it being impossible to implement each and every digital solution, those belonging to the identified business priority should be assessed and prioritized based on the framework (given below).



Approach to Digital Solution prioritization

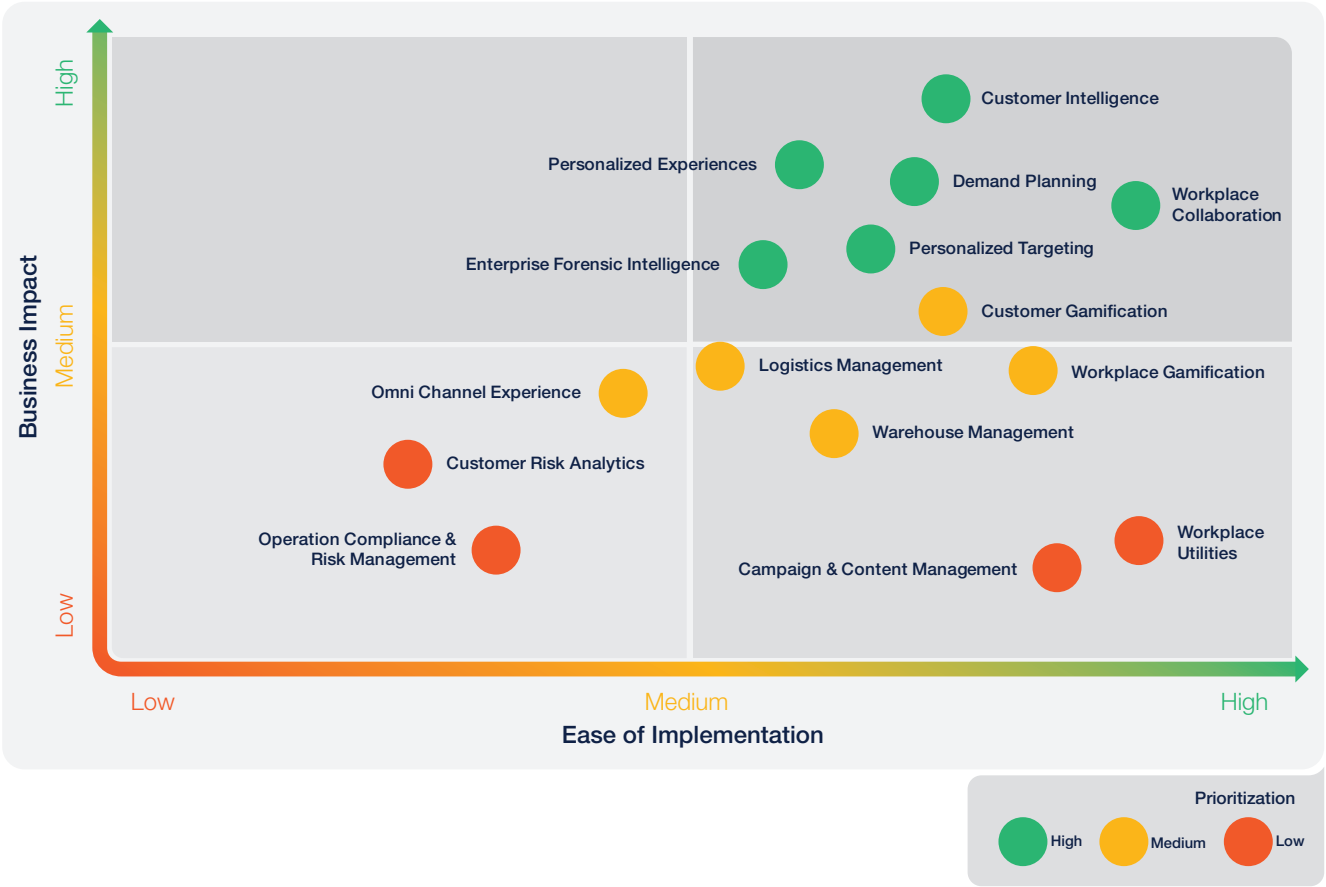
Enterprises need to assess the organization structure, people, technology and stakeholder buy-in in order to determine the ease of implementation of each digital solution. The business impact for each digital solution should be evaluated based on return on investment, customer base, risk assessment, and customer experience & satisfaction.

Approach to Digital Solution prioritization

Illustration of solution prioritization in retail:

The following is an illustrative of Digital Prioritization for a retail company. Digital solutions which are easier to implement and have a high business impact as well include:

- Customer-centric solutions (such as Customer Intelligence and Customer Gamification)
- Workforce and partner enablement solutions (such as Workforce Collaboration)
- Supply chain solutions (such as Demand Planning)



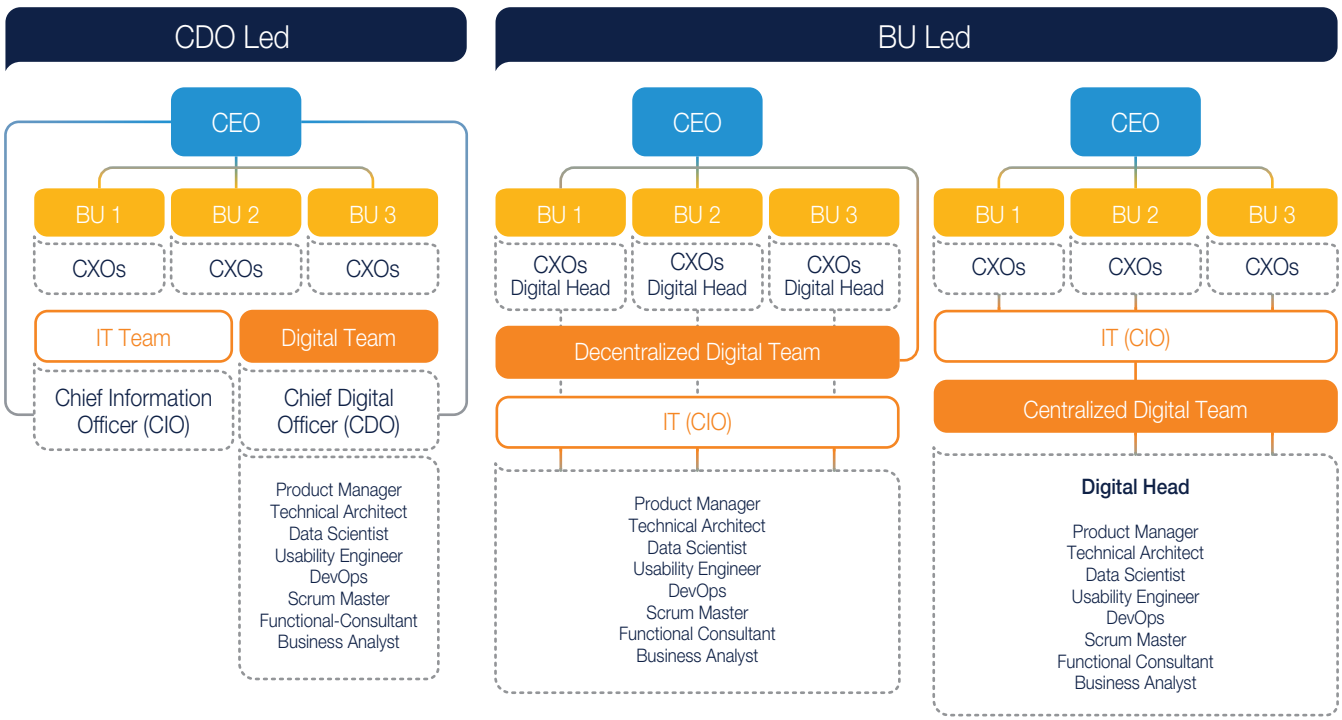
STAGE 3

Post shortlisting the digital solutions to be implemented, it is essential for enterprises to establish a step-by-step 'How To' framework for enterprise digital-readiness.

Structure, People and Technology form three key pillars of the framework. Structure involves restructuring of the enterprise and creation of new roles & responsibilities. People aspect focuses on building digital skillsets for EDT, digital talent acquisition, and exploring skill availability by geography. The technology aspect focuses on the incremental modernization of the enterprise's existing IT infrastructure in order to enable implementation of the digital solutions.

STAGE 3A
Organization readiness - Structure

Large enterprises willing to drive their digital transformation roadmaps will need to focus on multiple initiatives. This includes relooking at their organization structure and building capabilities for a digitally enabled organization. Organizational re-structuring will result in creation of new roles such as Chief Digital Officer, Data Scientist, and Data Visualizer . Enterprises can adopt the below stated three methods/ approaches to drive EDT:-



Options for Organizational Restructuring

The Chief Digital Officer (CDO) led structure consists of a digital team led by CDO directly reporting to the CEO. The CIO position is independent and would be responsible for IT modernization and maintenance projects. The BU (Business Unit) led decentralized structure is comprised of digital heads of each BU who liaison with the digital team led by the CIO. The CIO led structure comprises the centralized digital team (including the digital head) reporting to the CIO.

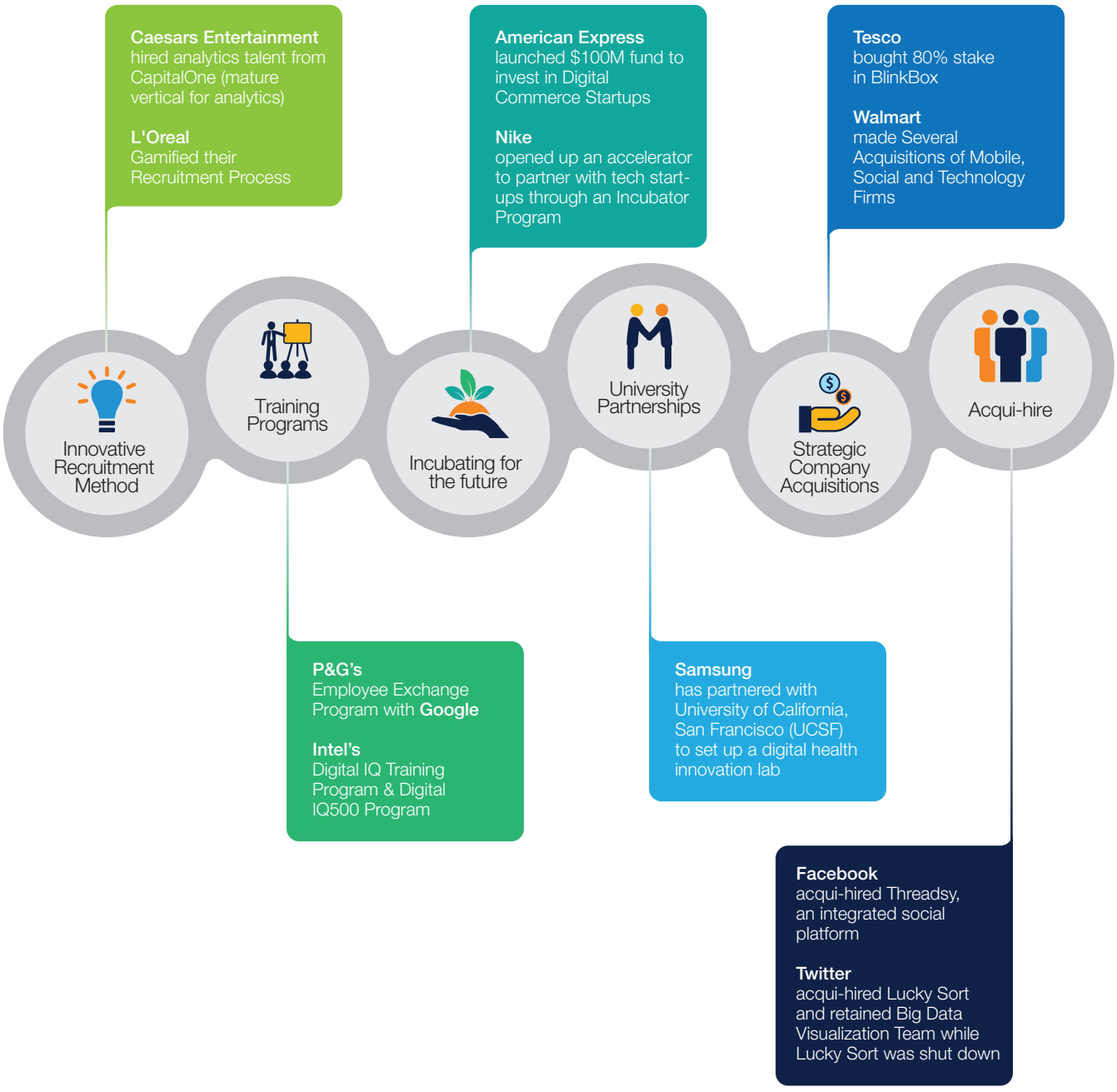
Apart from restructuring the organization based on digital requirements and ease of restructuring, enterprises also need to create new roles for EDT. In order to build these capabilities, firms will need to invest in skills in areas such as Machine Learning, User Interface Design & Development, Mobility, and Data Analytics.

	Responsibilities	Skills Required
Chief Digital Officer	Digital head who drives end-to-end strategy, design & implementation of the digital roadmap to help traditional businesses transform	• Technology & Business Expert • Collaborative skills (with CIO & CMO)
Data Scientist	Examines and analyses breadth and depth of data from multiple sources using analytics platforms, in order to derive actionable insights	• Data Analytics • Platform Expertise
Data Visualizer	Presents data in a lucid and understandable manner for employees, partners, customers, etc. in order to help them notice trends and patterns	• UI/UX • Multimedia (Audio & Visual) Skills
Product Engineer	Helps in the development of the digital solution incrementally and iteratively	• Software Product development • Agile Methodologies
Solution Architect	Defines the architecture required to implement solutions to meet digital requirements while ensuring alignment with the enterprise architecture	• Mobility • Software Product development
DevOps	Enables collaboration between development and operations staff through all stages of the development lifecycle of the digital solutions	• Software Product development • Agile methodologies
Scrum Master	Helps the digital team in adopting Agile methodologies better, which are required for the iterative and incremental development of digital solutions	• Software Product development • Data Analytics • Mobility • UI/UX
Product Manager	Strategizes, assigns and drives the development of digital solutions	• Software Product development • Agile Methodologies • Business Knowledge • Communication Skills

Responsibilities and skills matrix for EDT
Source: Zinnov Analysis and Research

Stage 3B
Organization readiness – People

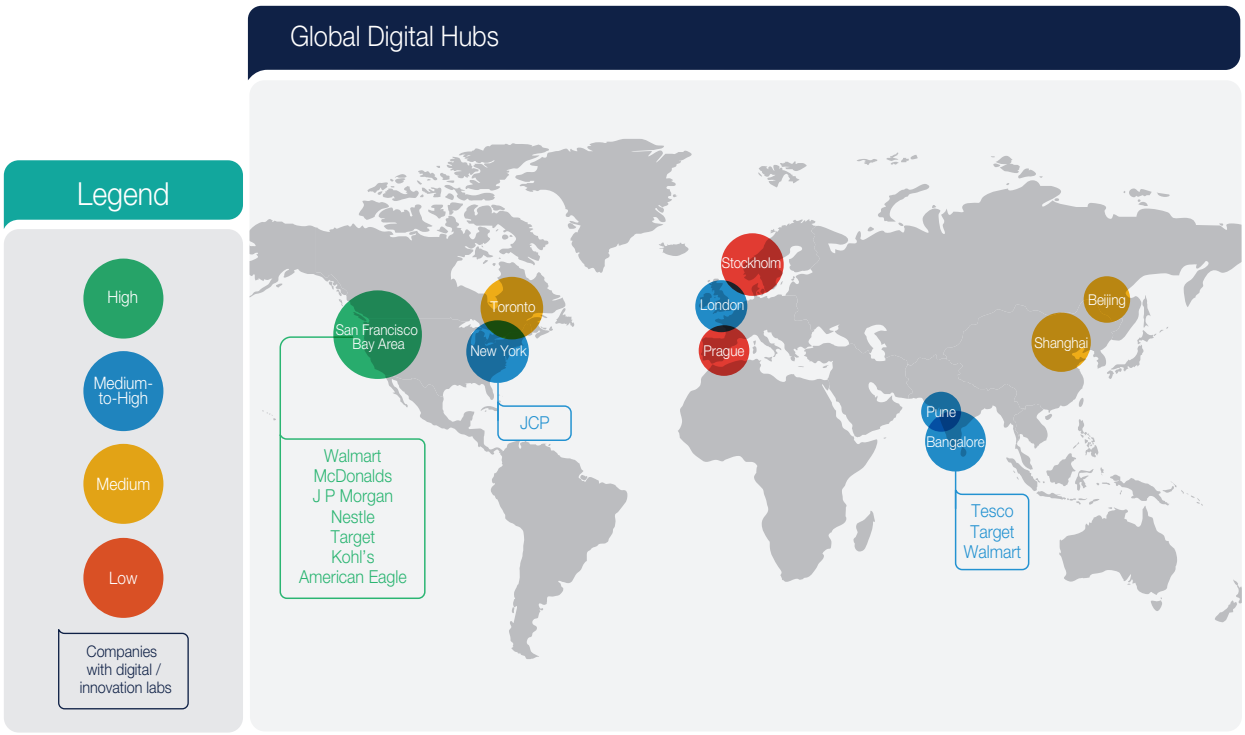
Traditional companies are employing varied strategies to build these digital skillsets. These strategies range from adopting innovative recruitment methods, conducting training programs, to entering strategic partnerships. A majority of companies are also acquiring mobile, social and technology firms. Acqui-Hire or acquisition with the intent of hiring talent is emerging as a common strategy adopted for sourcing talent.



Strategies for building digital skillset

Digital hubs

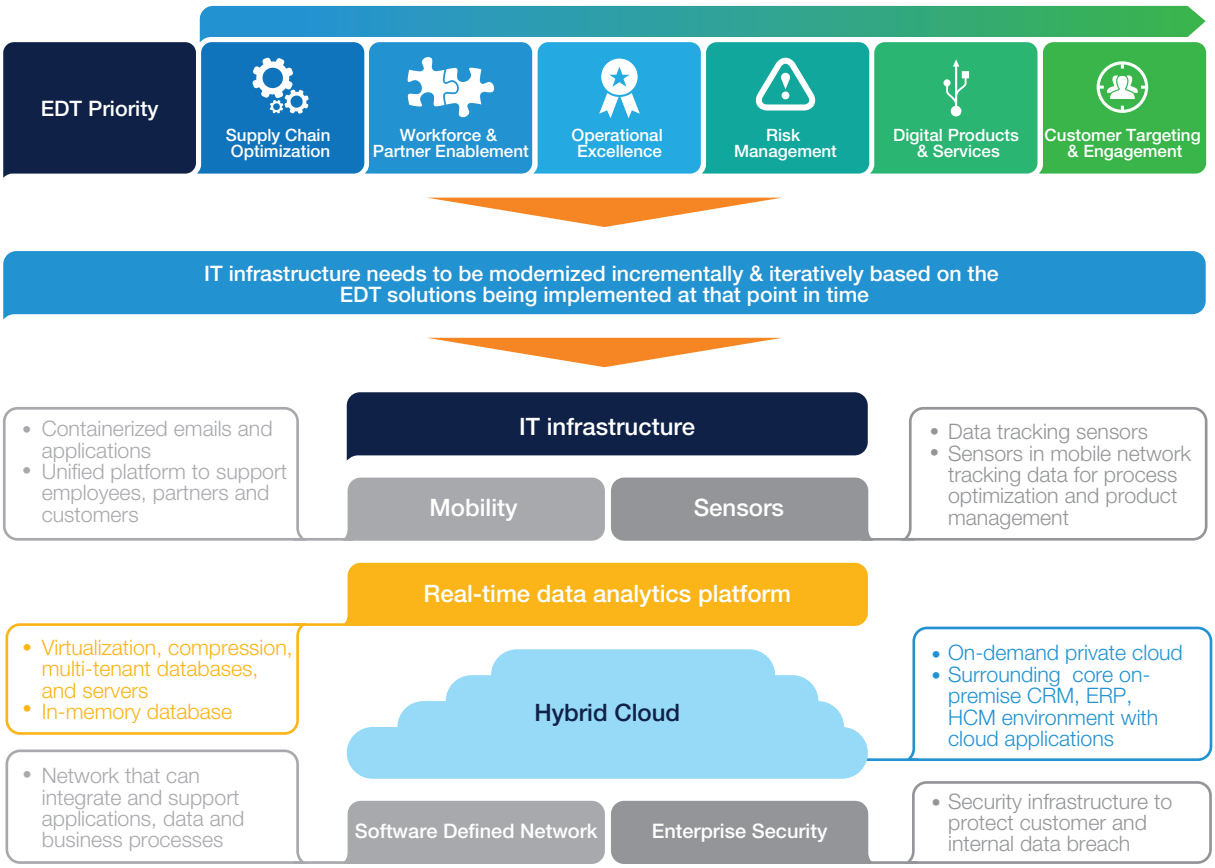
Bay Area, New York City and Bangalore have the largest EDT talent pool, followed by London, Beijing, and Pune-Mumbai region in India. With a strong technology ecosystem of MNC R&D centers, service providers, IT global in-house centers, and startups, India is well placed to play a key role in the digital era. Indian talent pool can potentially power the digital transformation for enterprises around the world.



Digital Hubs

Stage 3C
Organization readiness – Technology

Enterprises also need to modernize their IT infrastructure in order to undergo digital transformation. IT infrastructure needs to be modernized incrementally and iteratively based on the EDT solutions being implemented during that period.

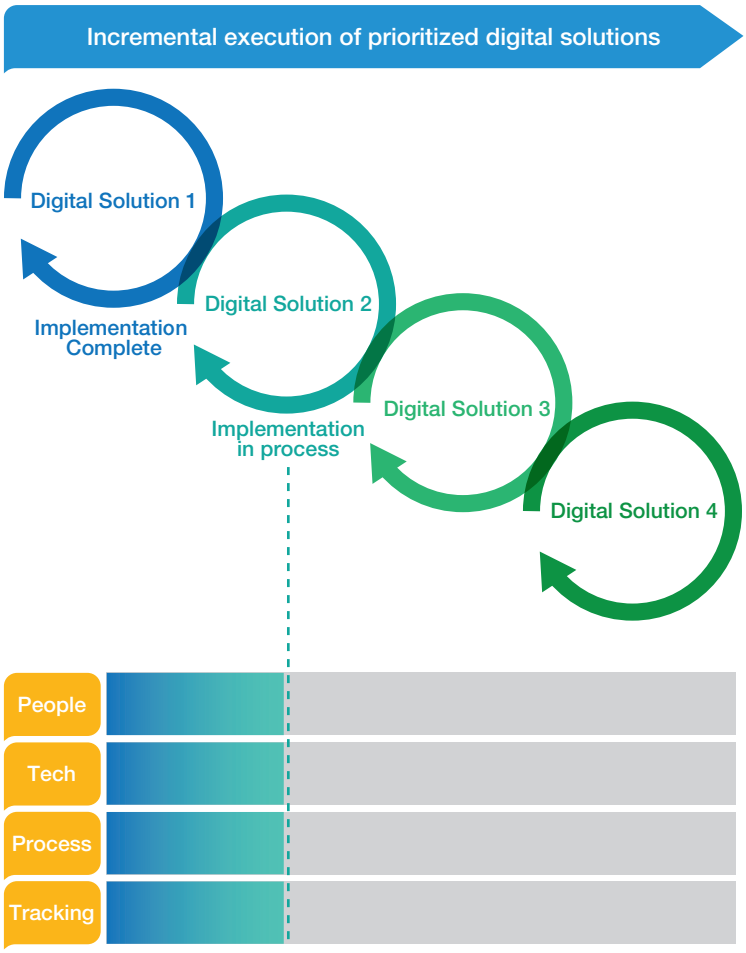


Incremental and iterative approach to IT Modernization

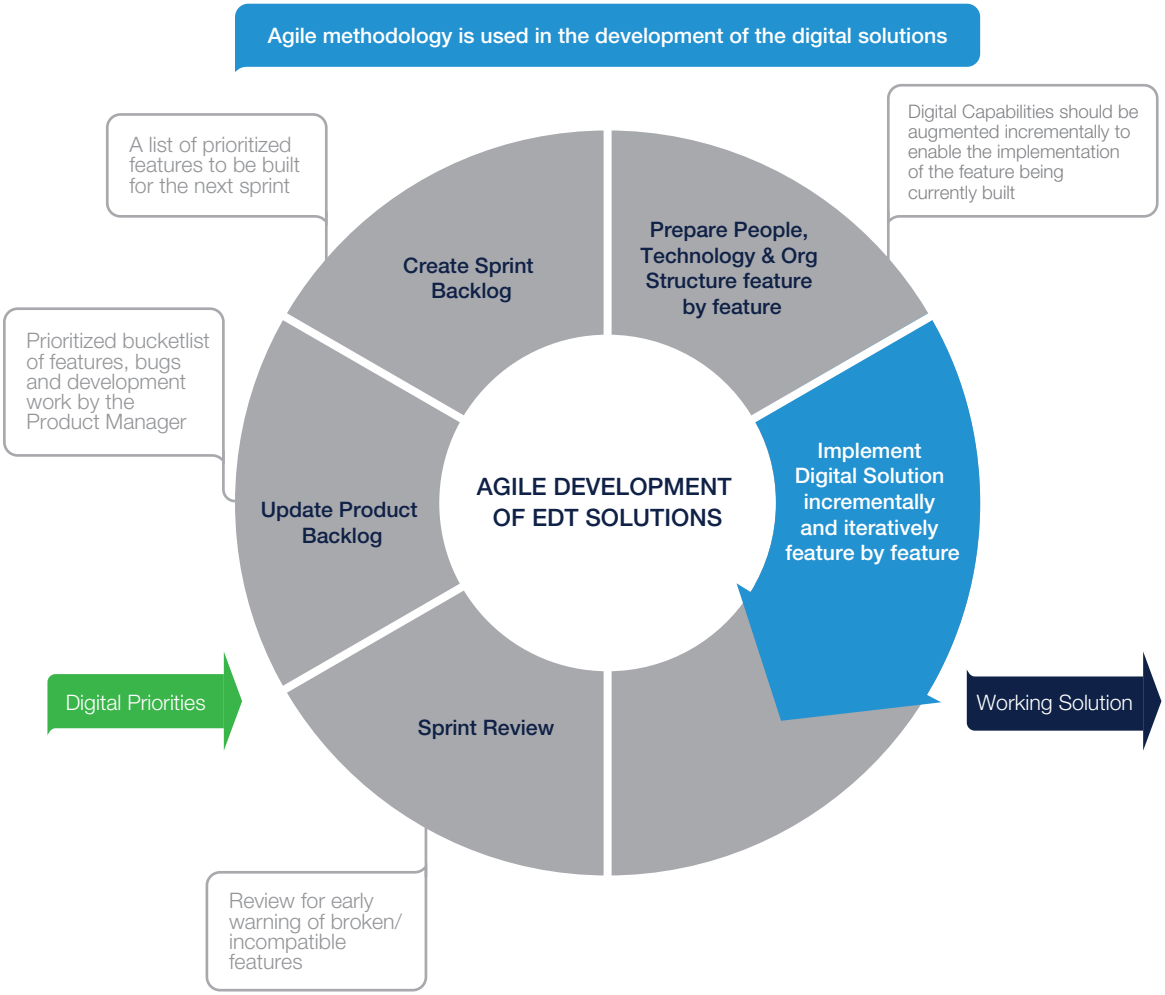
STAGE 4

Implementation: Once enterprises are digitally ready, EDT solutions need to be implemented incrementally and iteratively.

It is not essential to complete entire IT modernization before implementing the digital solution; only people, technology and process associated with that particular digital solution need to be completed. The process can be implemented step-by-step in an incremental manner. This reduces time-to-market and helps in building organizational capabilities that are responsive to sublime and dynamic market conditions of today.



Agile methodology is used for development of digital solutions. The same has been illustrated below. Methodology being highly collaborative starts with a prioritized bucket list of features. Implementation teams need to take a call on which features need to be part of the sprint. This is followed by preparing people, organizational and technology changes required for the solution sprint. Digital solutions are then implemented incrementally and iteratively. The process is repeated until the working solution is tested and finalized.

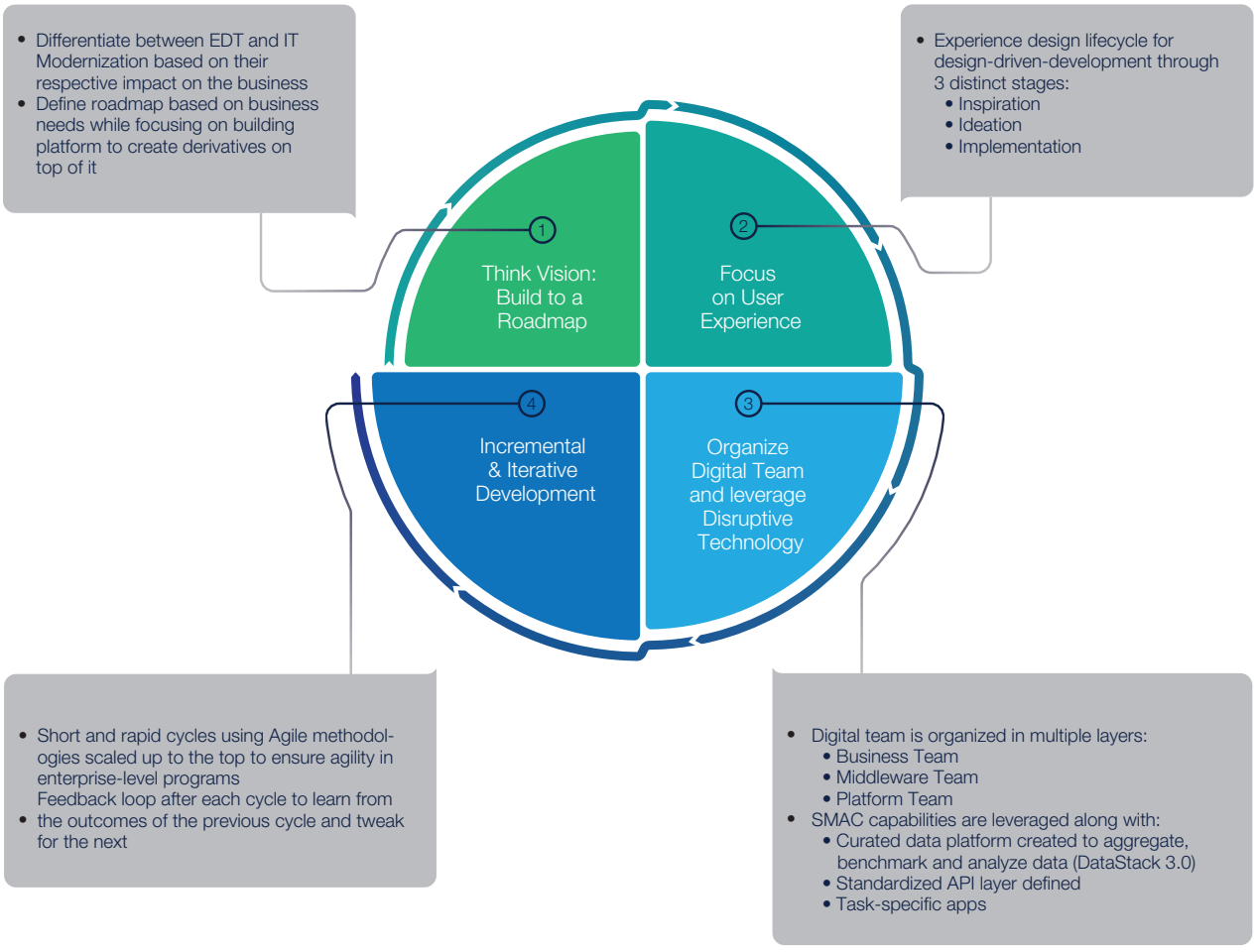


EDT Solution implementation approach

> Prioritized EDT solutions should implemented in an iterative and incremental manner

CASE STUDIES

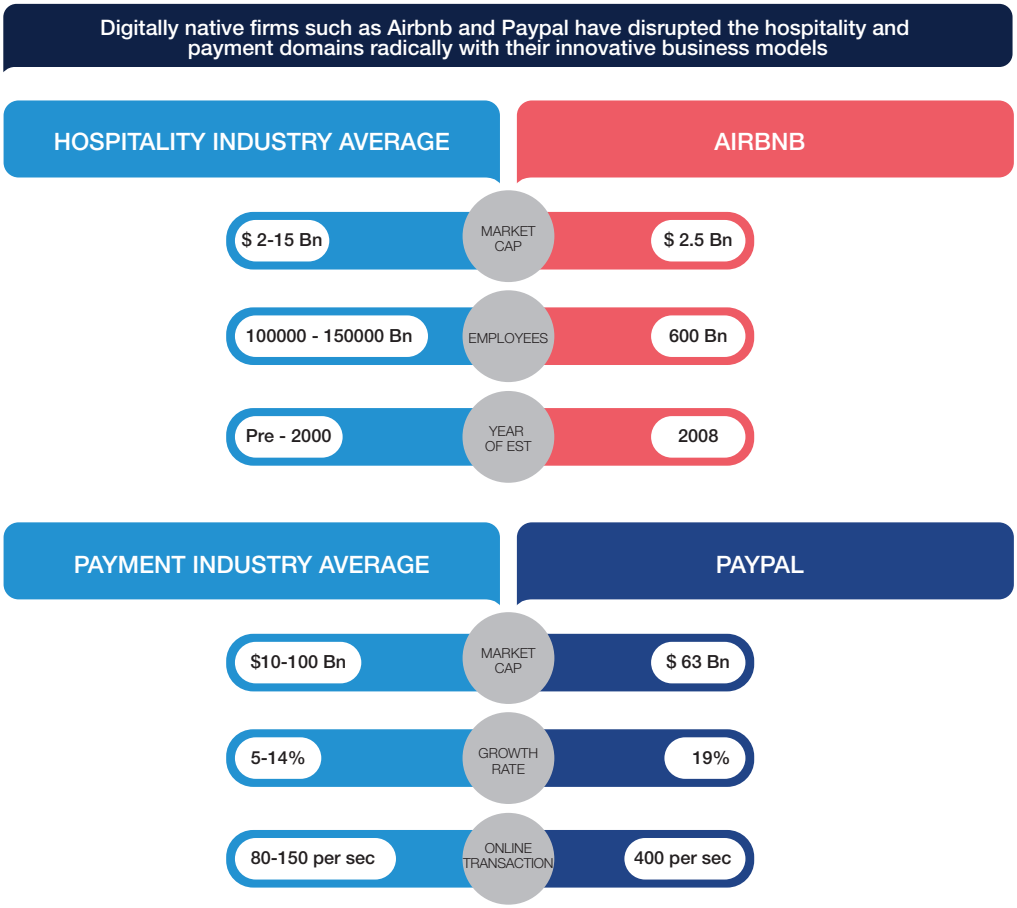
Persistent follows user experience-driven incremental and iterative approach to EDT. The approach acknowledges that IT Modernization and EDT are different. A similar approach needs to be followed by businesses for a successful transformation program.



Persistent's approach to EDT
Source: Zinnov Analysis and Research

FUTURE SCENARIOS

The road to digital transformation is paved with challenges. However, the failure to take measures to adapt can be fatal. Organizations can no longer ignore the threat posed by upcoming digitally empowered firms. Our research indicates that 50% of the companies in the Forbes Global 2000 list will drop out between 2015 and 2020. Digitally native firms have succeeded in adopting new business models to create a niche for themselves. Traditional enterprises will need to transform themselves to stay relevant.



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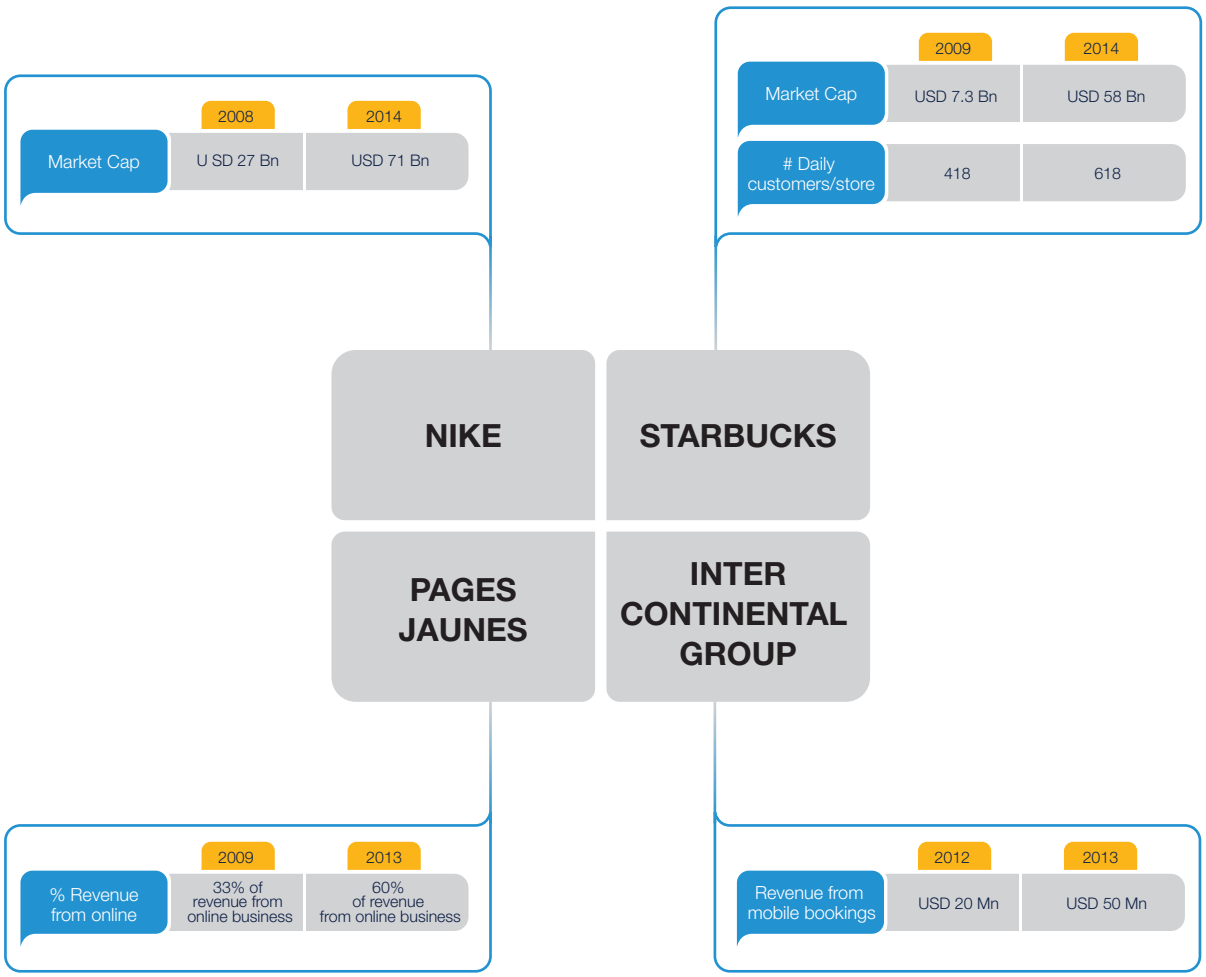
Number of companies that could possibly be churned out of the Forbes Global 2000 List between 2015 and 2020

Digital transformation provides a platform for modern enterprises to showcase unprecedented innovation and growth. A comprehensive digital strategy is at the core of organizations' efforts to surge ahead of the competition. Traditional organizations have learned from their digitally native counterparts. They are leveraging digital strategies to transform their business and reap the rewards.



THANK YOU

ABOUT ZINNOV

Zinnov is a management consulting that is head quartered out of Bangalore, with offices in Houston, Valley, Gurgaon and Singapore. Over the last 10 years we have rapidly growth by working by delivering a gamut of consulting services to Fortune 1000 customers and reputed SMB organizations. At Zinnov, we help organizations globalize their businesses and improve people strategy. Our consulting solutions are based on rigorous research techniques, data analytics and peer communities. We aspire to add value to our customers by helping them maximum the benefits from the globalization initiatives.

Zinnov believes that Globalization is not a process or activity, but is a tectonic shift in the way organizations function; then whether it is about entering a new market or expanding into an existing one. It has implications on the culture of organizations, its people, and also various products and services delivered by firms. This tectonic shift is irrevocable and is probably one of the most important transformation agents for the next generation of global economics.

We also look at the fundamental changes in industries, macroeconomics and markets to understand their impact on globalization. At Zinnov, we strongly believe that the next generation global initiatives will be based on holistic global approaches rather than short-term expectations.

These beliefs have encouraged us in passionately taking up the mantle of leading the industry on to the path of globalization. We have acted on this passion by undertaking multiple initiatives to bring together two different advocacy groups of globalization and challenge them to look at it from the prism of impact on global economics.

We call the amalgamation of these initiatives the “Zinnovian Way”!

ZINNOV SERVICE OFFERINGS

Globalization Advisory Services:

Our globalization advisory services are structured to help our customers transform into efficient global organizations, ready for the next decade of globalization.

We have helped our customers with:

- Globalization Strategy Definition
- Global Sourcing Strategy
- Global Center Set Up & Consolidation.
- Global centers maturity and Competency planning
- Peer Group Benchmarking
- Partner Selection & Management

Market Expansion Advisory Services:

At Zinnov, we help companies enter emerging markets as well as succeed in existing ones. We provide great deal of specific and comprehensive insights to our clients that help them gauge opportunities prevailing in the market, thereby advising a suitable market expansion strategy. There are four clear areas where we help our customers:

- Emerging Market Opportunity Assessment
- New Product Ideation & Solution Validation
- Business Planning & Go-To-Market Strategy Definition
- Sales Enablement Support

Digital Transformation Advisory Services:

We help organizations navigate their digital transformation journey by helping them structure their people, processes and technologies to succeed in a digital era. We help customers build their knowledge base, analyze key digital disruptors and formulate strategies for collaboration with vendors and partners. We also facilitate the prioritization of digital solutions for organizations. We provide advisory services to clients to help them implement their digital transformation strategy using agile processes and infrastructure.

- Digital Readiness Assessment
- Digital Transformation Roadmap Definition
- Digital Transformation Sourcing Strategy
- Organization Restructuring and Change Management
- Partner Selection & Management
- Digital Transformation Program Management

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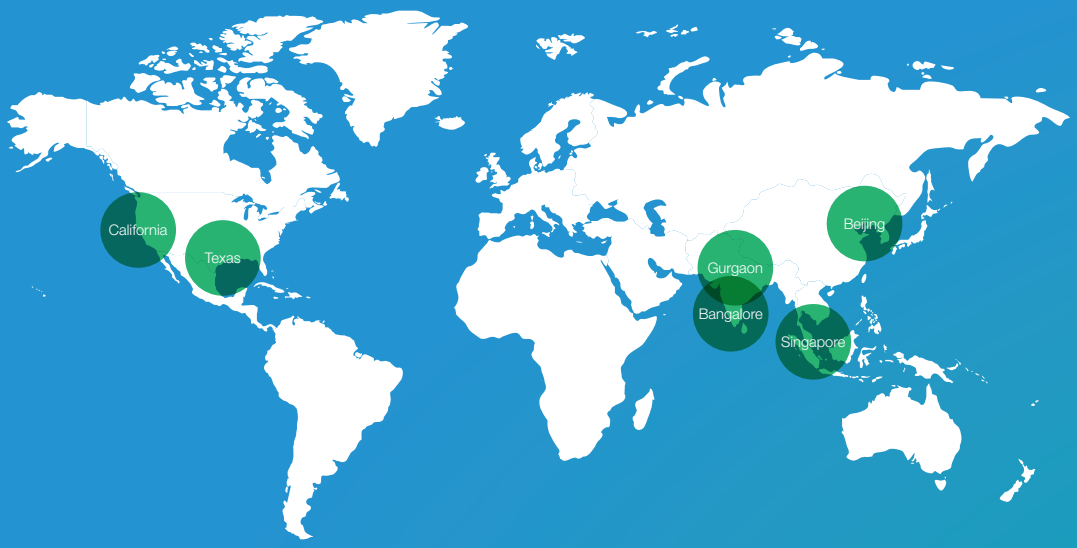

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